Edward Kerschner, CFA
212-713-2448
Thomas Doerflinger, Ph.D.
212-713-2540
Michael Geraghty
212-713-2581

PaineWebber

Market Commentary

INVESTMENT POLICY

New Economy: Yes New Metrics: No

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A Mania Amidst a Revolution

- Today, the "old old industrials" (i.e., "smokestack" America) are trading at an 11x P/E, the "old new industrials" (established large-cap tech stocks) at 54x, and the "new new industrials" (large cap, but recently public) at infinity, since they have no earnings. In terms of sales, the "old old" are at 0.6x, the "old new" at 7.3x, and the "new new" at 85.7x. Best growth/value proposition: "old new industrials."
- New metrics are not new—just foolish. Today's mania for high-tech Nasdaq stocks (many valued on a price-to-sales basis) is reminiscent of 1960s conglomerates mania (1+1 = 3), 1980s LBO mania (private market value exceeds public market value).
- In their early stages, the metrics of both conglomerate and LBO crazes had some merit. But both innovations were taken to absurd extremes.
- As was the case in LBO-driven market of 1987, today's new metrics bulls dismiss a variety of worrisome factors (earnings, rates, Fed) by arguing "that doesn't matter." And, as was the case with portfolio insurance in 1987, today many Nasdaq investors appear to believe that they can avoid heavy stock market losses in a downturn (thanks, in large part, to the apparent ease of day trading on the Web).
- What will trigger the beginning of the end of the current new metrics era remains unclear. The actual events that triggered the beginning of the end of previous new metrics eras were relatively minor. And, as was the case with prior manias, the complete demise of the current new metrics era may well take a few years. But, the initial corrective stage will likely be quite damaging just the same.
- A sharp correction in the prices of some egregiously overvalued Nasdaq stocks—were it to occur—would likely *not* indicate the end of the current bull market. The fundamentals for equity investing remain *perfect*—federal budget surplus, low inflation, consistent profit growth, demographically driven "big shift" into equities. Nor would such a correction end the information revolution.

The "New New Industrials"

It was almost a year ago that we made the case for the "new industrials." In "The Information Revolution Wars" (May 9, 1999) we wrote that:

> "The companies that are building the DGDP [Digitizable GDP] economy are the 'new industrials.' Like Carnegie Steel, Ford Motor Company and General Electric, they are *building the infrastructure for the DGDP economy*. The New Industrials are one of the very best ways to invest in the DGDP Revolution. There is not a large retailer, manufacturer, financial institution or government agency that can avoid moving onto the Web—whether or not the investment is profitable in the near term. Companies that build the DGDP infrastructure should enjoy explosive unit growth over the next decade. Among the best positioned: Cisco Systems, IBM, Lucent [and] Microsoft. These are all powerful and profitable companies with strong positions in fast-growing markets."

A year is, of course, an eternity in Internet time. Today these "new industrials" are so passé they could well be referred to as the "old new industrials." In the minds of many investors, these "old new industrials" have been surpassed by the "*new* new industrials," which are those companies that are *perceived* to be the builders of the DGDP economy *of the future*. But because they are prized for their *potential* earnings power five or ten years from now, these "new new industrials" cannot be valued by traditional metrics such as price-to-earnings multiples. Instead, many investors have turned to new metrics, such as price-to-sales (or its equivalent, market cap-to-revenue), revenues per customer, gross profit per customer etc.

The rise of these "new new industrials" has fragmented the U.S. stock market by creating categories of stocks valued by different metrics. To address this problem, Table 1 shows, to the extent possible, the same valuation metrics for three groups of companies:

- "Old old industrials" such as Alcoa, Caterpillar, Deere, Du Pont, Ford, PPG etc.
- "Old new industrials" such as AOL, Applied Materials, Cisco, Dell, EMC, Intel, Lucent, Nextel, Oracle, Sun Microsystems and Texas Instruments.
- "New new industrials" such as Amazon, Ariba, Broadcom, Ciena, Infospace, Level 3, Sycamore Networks and VeriSign.

Based on estimated 2000 EPS, the "old old industrials" are trading at 11x, the "old new" at 54x, and the "new new" at infinity, since they have no earnings. In terms of 1999 sales, the "old old" are at 0.6x, the "old new" at 7.3x, and the "new new" at 85.7x. Many investors have convinced themselves that, because of the rapid growth of the Web, the "new new" will *eventually* grow into valuation levels that are reasonable by traditional metrics, such as price-to-earnings multiples. In the meantime, those investors argue, the new metrics support continued purchases of these shares. That seems a very risky bet.

Table 1: "Old Old Industrials," "Old New Industrials" and "New New Industrials"
Old and new metrics

	Price/Earnings		Price/Sales	
	1999	*2000*	*1999*	*2000*
Old Old Industrials	12.6x	10.8x	0.6x	Na
Old New Industrials	69.2	54.3	7.3	Na
New New Industrials	Nmf	Nmf	85.7	Na
Nasdaq 100	147.1	110.8	11.0	Na
Nasdaq 100 CW*	111.4	85.2	11.2	Na
S&P 500	28.3	24.1	2.1	Na
DJIA	21.9	19.1	1.7	Na
DJIA CW**	29.1	25.3	2.6	Na

"Old old industrials" are 20 largest "smokestack" (paper, chemical, metals, machinery, auto) industrials in S&P 500.
"Old new industrials" are 20 largest tech companies in S&P 500 that have been public for 5 or more years.
"New new industrials" are 20 largest Nasdaq Composite companies (excluding ADRs) not in S&P 500 that have been public less than 5 years.
See Appendix A for a stock-by-stock listing.

* Nasdaq 100 cap weighted i.e., weighted by the market capitalizations of the 100 constituent companies. Nasdaq 100 is a modified capitalization-weighted index—see Appendix A for discussion. **DJIA cap weighted i.e., weighted by the market capitalizations of the 30 constituent companies. DJIA is sum of per share stock prices divided by a divisor.

Source: PaineWebber.

In the Beginning

When did the phenomenon of IPOs of technology companies without profits begin? As Michael Lewis writes in his book "The New New Thing," it started when the Internet really began to takeoff. With Netscape. And because Jim Clark wanted a big boat!

> "Six months after he founded Netscape, Clark agitated for the company to go public. The company had few revenues, no profits, and a lot of new employees. No one else inside the company thought it should do anything but keep its head down and try to become a viable enterprise. 'Jim was pressing for us to go public way before anyone else,' recalls Marc Andreessen. It turned out there was a reason for this. He'd seen a boat called Juliet. He wanted one just like it, only bigger. To get it he needed more money.
>
> "By then the decision was not Clark's alone to make. The company had hired a big-name CEO, Jim Barksdale, and had a proper board of directors. Barksdale didn't want to go public. He thought the company had enough problems trying to figure out how to turn a profit without having to explain itself to irate shareholders. But this time Clark had power, through his equity stake. He called a meeting to discuss the initial public offering (IPO), and stacked it with lawyers and bankers who stood to reap big fees from a public share offering and who were, as a result, enthusiastic about his initiative. At that meeting Barksdale finally capitulated. Eighteen months after Netscape was created, and

before it had made a dime, Netscape sold shares in itself to the public. On the first day of trading the price of those shares rose from $12 apiece to $48. Three months later it was at $140. It was one of the most successful share offerings in the history of the U.S. stock markets, and possibly the most famous.

"There was only one explanation for its success: the market now saw the future through Clark's eyes. 'People started drinking my Kool-Aid,' says Clark. 'Netscape obviously didn't create the Internet. But if Netscape had not forced the issue on the Internet, it would have just burbled in the background. It would have remained this counterintuitive kind of thing. The criticism of it was that it was anarchy. What the IPO did was give anarchy credibility.'

It had long been a rule of thumb with the Silicon Valley venture capitalists that they didn't peddle a new technology company to the investing public until it had had at least four consecutive profitable quarters.

"In the frenzy that followed, a lot of the old rules of capitalism were suspended. For instance, it had long been a rule of thumb with the Silicon Valley venture capitalists that they didn't peddle a new technology company to the investing public until it had had at least four consecutive profitable quarters. Netscape had nothing to show investors but massive losses. But its fabulous stock market success created a precedent. No longer did you need to show profits; you needed to show rapid growth. Having a past actually counted against a company, for a past was a record and a record was a sign of a company's limitations. Never mind that you weren't actually making money-there'd be time for that later, assuming someone eventually figured out how to make money from the Internet. For the moment you needed to plow all of your revenues back into growth. You had to show that you were the company not of the present but of the future. The most appealing companies became those in a state of pure possibility. Which is to say that the U.S. capital markets acquired the personal predilections of Jim Clark."

The 'M' word

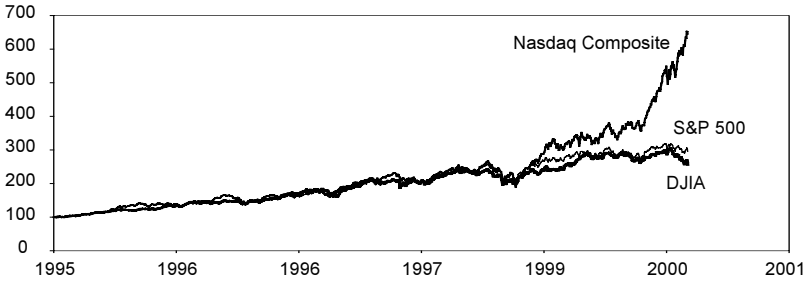
Webster's gives the following definition:

Mania (n) excessive or unreasonable enthusiasm

Today's mania for high-tech Nasdaq stocks (Chart 1) is reminiscent of other manias. In the 1960s conglomerates were the rage because the new metric of the day suggested that, when a conglomerate acquired a traditional company, their combined value exceeded the sum of the stand-alone values. In the late 1980s, the mania was for leveraged buyouts (LBOs), as investors incorrectly assumed that the private market value of *most* companies far exceeded their public market value.

Chart 1: S&P 500, DJIA, Nasdaq Composite

Index, January 1995 = 100



Source: PaineWebber.

As we detail below, in their early stages both the conglomerate and LBO concepts had some merit. Some conglomerates created in the early 1960s were fine companies, and LBOs were a brilliant and lucrative way to arbitrage the gap in the early 1980s between the depressed stock market valuation and the private market value of certain companies. But both innovations were taken to absurd extremes, which were justified with the use of new metrics. Likewise, as the Internet began to evolve, new valuation techniques needed to be applied to *the handful* of rapidly growing companies that were developing real franchises (such as America Online). But these new metrics are being indiscriminately applied today to justify extremely high valuations for companies with no earnings and no well-defined path to ever reaching profitability. And, as in past manias, these valuation realities are being overlooked because the stocks have momentum.

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"That Doesn't Matter"

A classic "red flag" warning that a mania is under way is when the new metrics bulls dismiss a worrisome valuation or economic indicator because "that doesn't matter." As Table 2 illustrates, the reasoning behind today's mania for high-tech Nasdaq stocks is eerily reminiscent of the reasoning behind 1987's mania for private market values.

As mentioned, because the earnings of the "new new industrials" are (at best) way off in the future, those companies cannot be valued using traditional metrics such as price-to-earnings multiples. So earnings "don't matter." But even though basic finance teaches that long duration assets are *very* sensitive to interest rates, the "new metrics" bulls argue that interest rates also "don't matter." Specifically, because the equity- (not debt-) financed growth of the "new new industrials" is so rapid, it's argued that their potential returns are far superior to those of bonds yielding a paltry 6%. (Nevertheless, our asset allocation model suggests that 10-year Treasuries have close to an 80% probability of outperforming the S&P 500 over the next 12 months.) In addition, the new metrics bulls argue that, even if the Fed continues to raise interest rates, that won't slow the cyber economy, although it may slow growth in "old old industrial" America. This logic is problematic *because old economy companies are the major customers of the new economy*.

Table 2: Parallels Between Two New Metrics Eras: 1987 and 2000

1987	2000
Earnings don't matter —The new metric is private market value	**Earnings don't matter** —The new metric is price to sales etc.
Interest Rates don't matter —Strong profits will cover interest expense	**Interest Rates don't matter** —New Economy cos are not debt dependent
Stock-bond relationship doesn't matter —Bonds cannot compete with LBO returns	**Stock-bond relationship doesn't matter** —Bonds cannot compete with Net returns
The Fed is raising rates to cool a hot economy —LBOs show no signs of slowing	**The Fed is raising rates to cool a hot economy** —The Internet shows no signs of slowing
A new way of trading will prevent heavy stock losses —Portfolio insurance	**A new way of trading will prevent heavy stock losses** —Day trading over the Internet
Debt levels are high —Corporate sector debt	**Debt levels are high** —Consumer margin debt

Source: PaineWebber.

No Exit

Perhaps the most worrisome parallel between today and 1987 is, however, the belief of many investors in the "new new industrials" that they won't incur heavy stock market losses. It's argued that, thanks in large part to day trading over the Web, stocks today can be bought and sold quickly and easily. This, it is believed, ensures quick profits on the way up, and also avoids steep losses on the way down. In 1987 many very sophisticated investors (including large institutions) were also convinced that "portfolio insurance" offered them protection from serious stock market losses.

What was true in 1987 remains true today: The price of a stock at any point in time is determined by the forces of supply and demand. If there are only sellers, and no buyers, prices plunge. Such a situation led to record volatility in 1987 (Charts 2, 3). While Nasdaq volatility has, in recent years, surpassed the levels reached in 1987 (largely reflecting a rush to *buy* stocks at literally any price), those record Nasdaq volatility levels could well be exceeded *if* a *selling* frenzy were to occur today, i.e., the speed of any drop in Nasdaq prices could make the pace of recent gains seem modest.

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Chart 2: S&P 500 Index Volatility

Average absolute value of daily price changes

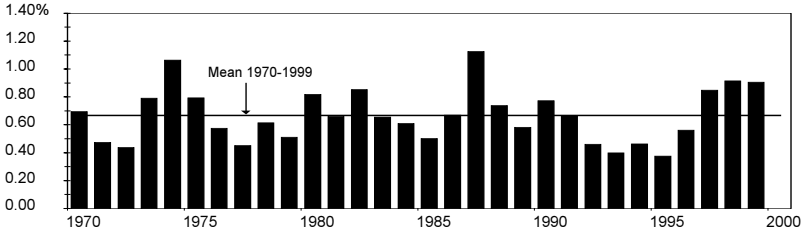
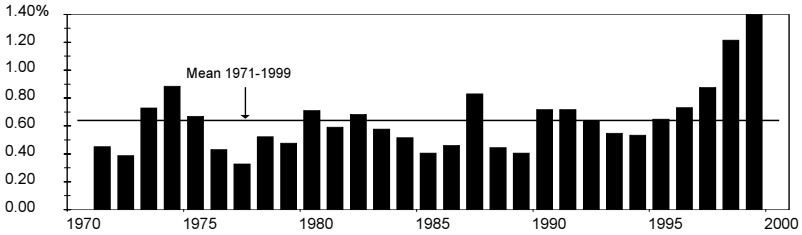


Chart 3: Nasdaq Composite Index Volatility

Average absolute value of daily price changes



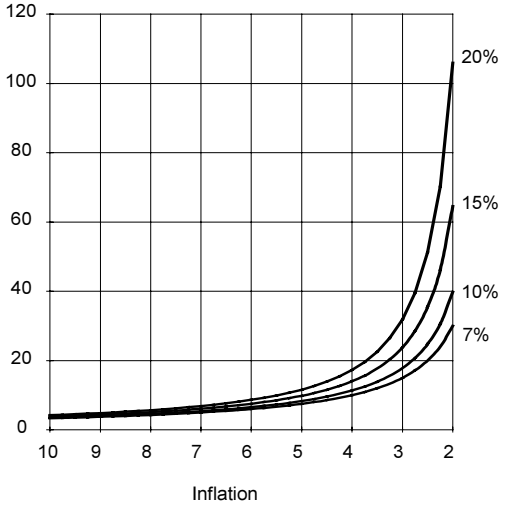
Source: PaineWebber.

It *Always* Comes Down to P/E and Earnings

Today the best growth/value proposition is found among the "old new industrials." As we have pointed out many times in the past, in the long run only two things determine stock prices: earnings and P/E (with P/Es, in turn, a function of expected earnings growth). The relationship between P/E and earnings growth is geometric, *not linear*, so that a very fast growth rate is worth a very high P/E multiple (Chart 4). *But there is always a limit to that P/E multiple.* "New metrics" can lead to astronomic valuations for a short period of time but, in the end, the market value of a company is based on some constant multiple of that company's sustainable earnings power.

Chart 4: P/E Multiples

For varying growth rates



Source: PaineWebber.

The Beginning of the End of a New Metrics Era Does *Not* Necessarily Signal the End of a Bull Market . . .

Just as the crash of 1987 did not signal the end of that decade's bull market, a meaningful correction among "new new industrials" would likely not indicate the end of the current bull market.

As discussed below, the events that triggered the *beginning of the end* of previous new metrics eras were relatively minor. The Fed-induced shallow recession of 1970 clobbered the earnings of conglomerates, and the stocks quickly fell out of favor. And what ultimately led to the crash on Monday, October 19, 1987, were comments by Treasury Secretary Baker the previous Sunday about what he viewed as inappropriate German monetary policy. The coup-de-grace for LBOs in 1989 was the failure of just one deal, involving UAL Corp., to get financing. What will trigger the beginning of the end of the current new metrics era remains unclear. But, as was the case with the two prior manias, the *complete* demise of this new metrics era will likely (but not assuredly) be a gradual process, and one that occurs over the course of a few years. But, the initial corrective stage will likely be quite damaging just the same.

As long as this mania for high-tech Nasdaq stocks continues, however, long-term investors with portfolios of high-quality companies with strong franchises could well continue to underperform. But just as the crash of 1987 did not signal the end of that decade's bull market, *a meaningful correction among "new new industrials" would likely not indicate the end of the current bull market*. The fundamentals for equity investing remain *perfect*: a federal government budget surplus; low inflation; consistent corporate profit growth; a demographically driven "big shift" by households into equities that is likely to continue for at least another 10-15 years.

. . . And Can Present a Good Buying Opportunity

After the stock market crash in 1987, the Wall Street economic consensus immediately shifted to a shallow recession in 1988 caused by the "wealth effect" of the crash. As is often true after a financial panic, investors focused on the risks while ignoring all the positives. But economic growth was solid in 1988, corporate profits rose over 40% and inflation remained moderate. As investors discounted this positive news, stock prices rose 12% in 1988 and 27% in 1989.

If there is a sharp correction in the prices of some egregiously overvalued Nasdaq stocks, that could well engender a bout of doom-mongering similar to that which occurred in 1987. Some prominent economists might once again predict a recession caused by the "wealth effect" of the correction. That school of thinking could spark further selling in the already battered shares of companies with exposure to the economic cycle, particularly the consumer sector. In addition, the stock prices of some "old new industrials" might also fall if it were feared that the "new new industrials" could no longer use equity financing to fund their purchases of the servers, routers and chips produced by the "old new industrials."

However, an important point to bear in mind is, whereas conglomerates were basically an accounting and stock market charade that added no economic value, and LBOs were a useful financial technique that was inappropriately and indiscriminately utilized, *the benefits of the Internet are for real.* A collapse in the stock prices of some egregiously overvalued Nasdaq stocks *would not end the information revolution.* The U.S. economy would still continue to reap the benefits of the information revolution, namely a muted business cycle, productivity gains and low inflation. And the forces that have been driving the consumer sector for the past several years (rising real wages in the context of a muted business cycle) would also remain unaffected by a sharp Nasdaq correction.

A collapse in the stock prices of some egregiously overvalued Nasdaq stocks would not end the information revolution.

The Conglomerate: 1 + 1 = 3 (But Only in a Bull Market)

For the United States, the 1960s was a prosperous, confident decade that ultimately lapsed into overconfidence and catastrophe during the inflationary 1970s, when living standards plunged. In the realm of public and economic policy, overconfidence was reflected in the belief that the country could afford simultaneously to fight the War in Vietnam and the War on Poverty—without raising taxes. On Wall Street, overconfidence was reflected by a rising faith in "conglomerates" or "multi-industry companies." Relatively conservative conglomerates such as Litton Industries and Textron appeared in the early '60s and expanded during the decade. As the concept gained credibility in financial markets, other conglomerates were created by young and aggressive financiers including James Ling (LTV), Charlie Bludhorn (Gulf + Western), Harold Geneen (ITT) and Meshulam Riklis (Rapid American).

Conglomerates placed under one management businesses as diverse as (in ITT's case) baking bread, selling insurance, renting cars and operating telephone systems. Even though they were glamorous companies with high P/Es that seemed to embody the "new economy" of the 1960s, conglomerates frequently purchased humdrum, low-tech businesses such as shipyards and auto-parts manufacturers. Conglomerates drove an acquisition boom during the "go-go years" of the late 1960s; in 1968 there were three times as many acquisitions as in a typical year in the early '60s.

The Conglomerates' New Metric

The new metric that justified conglomerates' acquisition binge had both a financial and a managerial/ideological dimension. Financially, a glamorous conglomerate with a high P/E ratio of, let us say, 40x could approach a target company trading at a P/E of 10x, acquire the target at a 50% premium (a P/E of 15x) and still have the deal be very accretive to earnings. These deals were often financed with debt, convertible debt and warrants (a.k.a. "funny money") rather than common stock, which made them even more accretive to earnings. Thus in the strong economy of the 1960s even a mediocre

conglomerate with uninspiring internal growth could produce very impressive EPS growth by doing many accretive deals while leveraging the balance sheet.

The new metric of conglomerate accounting was no secret formula; it was widely discussed in the press. For example, in February 1969 *Fortune* summarized the fear of critics:

> "What disturbs them all is that if the conglomerate movement keeps on expanding as it has been, a large percentage of values in the stock market will consist of conglomerate shares whose prices depend partly on false growth rates. Therefore they will be highly vulnerable to a revaluation; and since the market usually runs to extremes, swinging from overvaluation to undervaluation, the price-earnings multiple of conglomerate stocks could drop catastrophically."

The average price decline of 10 conglomerates from the market top in early 1969 to the trough in May 1970 was 86%.

That was a good call—the average price *decline* of 10 conglomerates from the market top in early 1969 to the trough in May 1970 was 86%.

"The Best and the Brightest"

Investors embraced the new metric of conglomerate accounting because they embraced the managerial ideology that went with it. Just as Americans thought the Vietnam War could be won by the "best and the brightest" leaders using scientific management techniques in Washington, so did they believe that conglomerates strengthened the American economy by replacing stodgy managers who had mastered the operations of a particular industry with fast-moving, farsighted, entrepreneurial businessmen who were not overburdened with detailed knowledge. Summarizing this viewpoint in 1968, *Business Week* wrote:

> "The business schools are creating a generation of managers who believe that effective management techniques transcend industrial categories. . . . [Diversification] liberates management's thinking about expansion: Uncommitted to any individual industry, management can swing capital quickly into any business field that looks profitable enough."

And of course, managers were expected to realize "synergies" between disparate businesses that made the whole company greater than the sum of its parts. In theory, managerial insights learned in defense contracting could be applied to the manufacture of consumer products. It is hard to exaggerate the degree of naïve enthusiasm about the unlimited power of smart managers with big new ideas to work wonders. For example, in 1966, when America was beginning to focus on the "urban crisis," Roy Ash, CEO of Litton Industries, told *Fortune* how his company was thinking of addressing the problem—with a "de novo city":

> "Now maybe this is one of those situations in which the solution lies in integrating the problem and raising it to a higher level. . . . There's no reason why you can't take 200 square miles some place that has the natural resources, which means primarily water—and even the water problem can be solved separately if it has to be—and create an ideal city with solutions for all these urban problems before it's even built."

Mr. Ash did not mention how this ambitious project, presumably geared toward poor people, would generate earnings.

A Cult of Youth

A cult of youth was part and parcel of the conglomerate movement; financially savvy young managers aimed to revitalize old-fashioned companies. One conlgomerateur projected that in ten years corporate America would be consolidated into just 200 conglomerates. Established corporate managers bristled at such forecasts—DuPont's CEO once remarked, "Running a conglomerate is a job for management geniuses, not for ordinary mortals like us at DuPont." The CEOs of "old-line companies"—the "brick and mortar companies" of their day—feared that they would be acquired by "high-flying conglomerates." Thus a *Wall Street Journal* "Heard on the Street" column of February 1969 reported that the stock price of U.S. Steel was up on rumors of a takeover—perhaps by Laurence Tisch's Loews Corporation.

A Post-Mortem for Conglomerates

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The new metric of the conglomerate was fully embraced by Wall Street for about four years in the late '60s, but the companies performed very poorly after 1968. *Business Week* later reported:

> "According to a study by economists David J. Ravenscraft and F. M. Schere, anyone investing $1,000 in Teledyne Inc. and a dozen other budding 'free form' conglomerates in 1965 did 3.6 times better than the Standard & Poor's 400 industrials index by their banner year of 1968. But by 1974, these investors' gains had been more than wiped out. Those who bought at the 1968 peak fared even worse: They lost 56% of their investment by 1974, though the market was up 10% at the same time."

As detailed below, many conglomerates were disassembled in the 1980s. What went wrong? Corporate executives who assumed the role of portfolio manager usually excelled as neither industrialists nor investors and ended up with a collection of businesses they did not understand. CEOs were too preoccupied with deal-making to run their businesses effectively (especially in a weak economy). And the performance of acquired companies often deteriorated once they were saddled with headquarters costs, the founding entrepreneur departed, and morale slumped. Once their profits turned disappointing, conglomerates' stock prices collapsed—particularly because conglomerates were favorite holdings of aggressive growth mutual funds that lost assets in the bear markets of the early 1970s. And because their EPS growth depended in large part on using their high-P/E shares to make acquisitions, their weak share prices further damaged their earnings growth. Their high debt levels further undermined earnings.

Although conglomerates lost their "glamour" with the 1970 recession and no longer had the currency to make accretive acquisitions, they did not disappear. They continued to operate during the 1970s, when inefficiency was not a serious issue for most corporations because they could raise prices at will. Furthermore, accelerating inflation kept the real, after-tax cost of debt low. Meanwhile, in the 1970s many corporations made acquisitions in an attempt to diversify into higher-growth businesses. Consequently, by the beginning of the 1980s corporate America had a large number of highly diversified companies.

The LBO: 4 / 2 = 6

In the spring of 1989 a PaineWebber analyst who had just upgraded McDonald's from "attractive" to "buy" was recommending the stock to a portfolio manager who remarked, "It's a fine company, but what has it done for shareholders?" The PM was thinking in terms of the new metric that governed the stock market in the late 1980s—one did not buy a stock just because it was cheap in comparison to its growth rate, but rather because it was likely to benefit from a "strategic action" such as a leveraged buyout, an acquisition by another company or a corporate raider, or a major restructuring (which might involve such moves as selling businesses, leveraging the balance sheet and buying back shares).

LBOs were a good idea that was taken to dangerous excess; investors who got involved with them in the late 1980s fared poorly, and LBO loans were a material cause of the banking crisis of 1990-91.

So Wall Street had come full circle. In the era of the conglomerate the whole was worth more than the sum of its parts; in the era of the LBO, the whole was worth less than its parts were worth if sold off individually. It would be incorrect to dismiss both ideas as stupid fads. Whereas the conglomerate idea *was* a dumb idea that added no economic value and only fooled gullible investors through the legerdemain of merger accounting, LBOs were a *good* idea that did add value to the economy. However, LBOs were a good idea that was taken to dangerous excess; investors who got involved with them in the late 1980s fared poorly, and LBO loans were a material cause of the banking crisis of 1990-91.

The New Metric of LBOs

In the 1980s, LBOs arbitraged the gap between the stock market value and the private market value of companies. This gap was huge because of the impact of high inflation during the 1970s. The acceleration of inflation from the low single digits in the 1960s to 12% by 1980 caused P/E ratios to collapse; stock prices were flat from the late 1960s to the early 1980s. Meanwhile, thanks to inflation and economic growth, the private market value of corporate assets—i.e., what they could sell their buildings, oil, or businesses for in the private market—continued to increase fairly rapidly. Federal Reserve data measure this gap. In 1968 corporations were valued in the stock market at 105% of their underlying assets, but the bear market of 1973-74 lowered the ratio to 33%. At year-end 1980 the figure was 44%, and at year-end 1985 it was still around 47%.

By the late 1970s smart financiers were taking advantage of the gap between public (i.e., stock market) and private market values by borrowing the capital to acquire a company. After the deal, they could sell some assets to pay down the debt, cut costs to increase cash flows, and use the cash flow to pay interest and pay down the debt. Because interest payments were tax-deductible, the tax burden was low. As the company deleveraged, its credit rating improved and it could be refinanced with lower-cost debt. Eventually the company could be taken public again, enriching the owners. The signature deal was Gibson Greetings Inc.; former Treasury Secretary William Simon invested $330,000 in 1981 and received $70 million two years later.

Mr. Milken Becomes "Highly Confident"

At first LBOs were done by financial boutiques that minimized risk by purchasing companies with these characteristics:

- Established, mundane, proprietary product lines.
- Dominance or major share in a fragmented industry.
- Continuity of experienced managers (who were let into the deal).
- Consistent profitability, even during recessions.
- Minimal requirements for R&D and capital spending.
- Debt level not greater than 20%.
- Assets carried on the books well below fair market value.

The first year of the 1980s bull market (i.e. mid-1982 to mid-1983) was a high-tech/new-issue market focused on the personal computer industry. But by 1985, when high-tech excitement had died down but healthy economic growth was expanding corporate cash flows, LBOs and hostile acquisitions financed with junk bonds issued by Drexel Burnham Lambert's Michael Milken started to become a major theme in the stock market.

The financiers who flocked to the annual "predator's ball" were equivalent to the conglomerateurs of the 1960s: smart, ruthless, imaginative outsiders who threatened the hegemony of the colorless bureaucrats who ran corporate America. A raider could buy 4% of the shares of a target, get a letter from Milken stating he was "highly confident" that bonds could be sold to finance a deal, and then attempt to acquire the target. In some cases the target paid "greenmail" by buying the shares from the raider, who made a quick profit. In other cases, the raider was successful and made the deal work by:

- Writing up the assets to reflect the acquisition premium paid, then depreciating from this higher cost basis for tax purposes. This reduced taxes and increased cash flow.
- Sold off peripheral businesses, using the proceeds to pay down debt.

- Extracted excess funds from overfunded pension plans.
- Slashed expenses.

The *New* New Metric of the 1980s

The new metric of the 1980s—private market value—became a conceptual trap in 1987, because it was a major reason why investors ignored the sharp rise in bond yields in the spring of 1987 that made stocks increasingly unattractive and risky.

To avoid this fate, by 1985 companies were taking strategic actions—usually some combination of asset sales, cost cutting, debt issuance, and/or share buybacks—in order to boost their share price. So the *new* new metric on Wall Street was a company's private market value—how much a leveraged buyer could afford to pay to acquire a company. No research report was complete without an estimate of this figure.

Unfortunately, this new metric became a conceptual trap in 1987, because it was a major reason why investors ignored the sharp rise in bond yields in the spring of 1987 that made stocks increasingly unattractive and risky—especially with the financial backdrop deteriorating as the dollar declined and the U.S. trade deficit failed to shrink as policymakers hoped. By the fall of 1987, our Asset Allocation model was calculating that the probability that stocks outperform bonds had dropped to just 8%. A perusal of *The Wall Street Journal*'s "Abreast of the Market" columns for July 1987 shows how excitement about acquisitions and restructurings, plus the perception that they were creating a shortage of stock, mesmerized investors as they marched toward October's 22% plunge in stock prices:

- **July 7**: Sterling Drug gains 5¼ on takeover rumors; Southland jumps 7¼ on heavy volume as the Thompson family, which controlled the company, agreed to take it private.
- **July 8**: "Portfolio managers want out of the high-technology stocks and into companies with undervalued assets, high cash flow and restructuring possibilities," a trader said.
- **July 9**: Takeover speculation swirled around Gillette again. Texaco gained ½ on heavy volume as a group led by Australian investor Robert Holmes a Court raised its stake to 7.4% from 6.4%.
- **July 13:** An analyst commented that there was a decreased supply of stock available because of numerous company stock buybacks and the elimination of many large-capitalization stocks from the market through leveraged buyouts and mergers.
- **July 28:** American Express rose 1½ on heavy volume as investors anticipated announcement of a major share buyback. Harcourt Brace rose 1¼ as it paid a special dividend as part of a restructuring plan. Other publishers moved up on anticipation Robert Maxwell might make a bid. Graco jumped 6¼ after saying it would buy back as much as 26% of its shares.
- **July 30:** A trader commented, "When portfolio managers are sitting there with cash and the market is going to new highs, it brings them into the market." Another trader said that stock investors seem to have forgotten about what is happening with the dollar, bonds or commodities and have focused inwardly on the market . . .

They're paying attention to such announcements as stock buybacks, earnings reports and forecasts, and special situations such as restructurings and mergers.

- **July 31**: A trader noted that the market "is feeding on itself. The momentum of the last few days is bringing people into this market."

The Beginning of the End for "Private Market Value"

Counterintuitively, the 1987 stock market crash extended the life of private market value as the market's new metric, ultimately allowing it to do more damage to the financial markets and the economy. As a result of the crash, stock prices plunged and the Federal Reserve cut interest rates to ameliorate the expected recession. In fact, however, the U.S. economy was strong in 1988, while stock prices were fairly weak. By late 1988, U.S. equities were on the bargain counter; S&P 500 earnings climbed 72% over the prior two years (i.e., 1987 and 1988), yet stock prices had climbed just 15% over the same period. Foreign buyers scooped up some of these bargains (e.g., Robert Maxwell bought MacMillan) and in the autumn Wall Street was rocked by Philip Morris's purchase of Kraft foods and—even more spectacular—KKR's leveraged buyout of RJR Nabisco.

The RJR deal ignited a paroxysm of indignant outrage about the reckless, unbridled greed of Wall Street. Among the most scathing criticisms (and certainly the best informed because composed by an expert) was that of the respected financier Theodore J. Forstmann, who wrote an article in *The Wall Street Journal* called "Leveraged to the Hilt—Violating Our Rules of Prudence." Forstmann and others made these central points:

- Deals were being done not because they made economic and financial sense, but because investors, bankers and others were hungry for fees.

- Inappropriate companies were being taken private in leveraged transactions—one-product companies, companies subject to commodity price swings, technology companies with volatile markets and high R&D spending, among others.

- Investors were overpaying, and finessing the problem by issuing new instruments such as "zero-coupon" debentures and PIK or "payment in kind" securities. As Forstmann explained, PIK's were "based on the notion that when a borrower is too broke to pay his interest in cash, he can 'pay' by issuing an additional note, which he also can't afford to service. This is the intellectual equivalent of doubling your money by folding it in half."

- Risks were raised even further by the fact that we were late in the business cycle.

Forstmann was completely correct, but also a year early. The Wall Street deal machine continued to operate through most of 1989, applying the new metric of private market value to one company after another.

This was different from many market manias because there was a rising tide of evidence—not opinion about overvaluation, but specific evidence—that many LBOs were not working well, despite a strong economy. In December 1988 *The Wall Street Journal* carried an article titled "Wobbly LBOs: Leveraged Buy-Outs That Appear Shaky Are on the Increase." In September 1989 *Business Week* wrote, "No recession. Lower interest rates. Yet leverage, the financial alchemy of the 1980s, is fast losing its magic. Already, some of leverage's best-known names are in dire financial straits." Both of these articles mentioned many deals in which interest payments were missed, terms had to be revised, assets had been sold for less than expected, etc.—even in a good economy.

"UAL Friday" and the End of Private Market Value

Yet many equity investors ignored this evidence and continued to speculate in stocks that might be acquired in leveraged transactions, including such airline stocks as AMR and UAL. The airline industry was very well suited for LBO—except for the fact that it is capital intensive and unionized, has low margins, is highly cyclical, and is vulnerable to swings in energy prices. In the fall of 1989 Wall Street was abuzz with rumors of airline deals. When the proposed LBO of United Airlines failed to get financing from bankers, the DJIA dropped 191 points (6.9%) on Friday, the 13th of October. Many "deal stocks" collapsed, badly hurting those who were speculating in them with borrowed funds. UAL fell 70% from its LBO-mania peak over the next year.

UAL fell 70% from its LBO-mania peak over the next year.

"UAL Friday" officially ended private market value's reign as the new metric on Wall Street. Unlike the illusory "synergies" promised by conglomerates, this was a valuable concept that unlocked values and hastened the restructuring of the U.S. economy in the 1980s. But, as often happens on Wall Street, success bred excess, which fed on itself until disaster struck.

As the warnings of Theodore Forstmann and many others show, it was not difficult to forecast that the LBO mania would end badly; in mid-1989 PaineWebber forecasted a retrenchment in acquisitions/restructurings (see "Beyond the Debt Deluge: Growth Regains its Glamor in the 1990s," June 15, 1989). As in most manias, the rationale for continuing to invest in increasingly risky investments was what might be variously called the liquidity, weight of money, momentum, or greater fool theory—I am buying the stocks because they are going up, and they are going up because so many people are buying.

Participants in the Wall Street deal machine made comments like these:

> "Bankers keep calling on us, saying, 'Here, take our money."
>
> "The world is awash with cash."
>
> "You can always get money for a deal."

So long as they were looking for the "instant gratification" of chasing deal stocks, investors ignored plain old growth stocks, which were quite cheap by the end of 1989. (In "Beyond the Debt Deluge," PaineWebber forecasted that once the "debt deluge" ended investors would gravitate from deal stocks to growth stocks, and there would be "growth stock relative P/E explosion" in the 1990s. That is indeed what we have had for the last ten years.)

Appendix A

"Old Old Industrials"

The 20 largest "smokestack" (paper, chemical, metals, machinery, auto) industrials in the S&P 500.

Company	Symbol	3/9/2000 Price	Market Cap ($ billions)	1999 P/E	2000 P/E	1999 Price/Sales
Air Prod & Chem	APD	$24.81	$5.7	11.7x	11.7x	1.1x
Alcan Aluminium	AL	31.81	6.9	19.0	9.7	0.9
Alcoa Inc	AA	67.69	24.9	24.0	15.4	1.5
Caterpillar	CAT	35.25	12.5	13.4	12.1	0.6
Champion Int'l	CHA	48.00	4.6	23.3	11.6	0.9
Deere & Co	DE	35.69	8.3	31.3	17.8	0.7
Dover Corp	DOV	41.38	8.4	22.1	18.2	1.9
Dow Chemical	DOW	95.88	21.0	15.4	14.7	1.1
Du Pont	DD	46.44	45.3	18.0	15.2	1.8
Ford Motor Co [3]	F	41.63	50.9	7.1	6.9	0.3
General Motors	GM	77.56	49.8	9.1	8.4	0.3
Georgia-Pacific [3]	GP	34.63	5.9	8.5	6.8	0.3
Illinois Tool Works	ITW	54.88	13.8	18.3	16.2	1.8
Ingersoll-Rand	IR	35.88	5.9	10.2	9.1	0.8
Intl Paper [3]	IP	34.75	14.4	25.0	10.8	0.6
PPG Industries	PPG	45.56	7.9	12.4	11.0	1.0
Praxair	PX	31.81	5.1	12.1	10.7	1.1
Rohm & Haas	ROH	35.31	7.7	16.7	14.5	1.4
Union Carbide	UK	46.50	6.2	24.5	20.0	1.1
Weyerhaeuser	WY	51.75	10.4	15.6	11.6	0.9

"Old New Industrials"

20 largest tech companies in S&P 500 that have been public for five or more years.

Company	Symbol	3/9/2000 Price	Market Cap ($ billions)	1999 P/E	2000 P/E	1999 Price/Sales
America Online	AOL	$61.00	$139.0	221.8x	143.0x	24.7x
Applied Materials [2]	AMAT	190.31	72.8	74.9	39.6	12.7
AT&T Corp [3]	T	52.63	234.8	23.8	24.6	2.7
Cisco Systems [2]	CSCO	139.31	461.8	156.5	121.0	31.7
Compaq Computer	CPQ	27.94	47.4	87.3	26.0	1.2
Dell Computer [2]	DELL	50.44	128.7	74.2	56.2	5.1
EMC Corp	EMC	131.75	134.1	121.4	91.3	20.3
Hewlett-Packard	HWP	151.88	154.8	49.2	42.4	3.5
Intel Corp [2]	INTC	118.38	395.5	51.0	40.7	13.4
Intl Bus Machines [3]	IBM	107.56	196.0	29.0	24.9	2.2
Lucent Tech	LU	68.50	217.7	62.3	45.6	5.5
MCI Worldcom [2]	WCOM	47.69	135.4	36.4	25.2	3.8
Microsoft Corp [2]	MSFT	100.00	517.7	62.5	56.2	23.6
Motorola [3]	MOT	162.50	99.0	78.5	51.1	3.2
Nextel Commun [2,3]	NXTL	152.94	50.9	nmf	nmf	16.3
Nortel Networks	NT	122.19	166.4	106.3	93.3	7.5
Oracle Corp [2]	ORCL	84.00	237.0	171.4	134.1	25.7
Qualcomm [2]	QCOM	127.00	89.9	165.5	113.5	20.5
Sun Microsystems	SUNW	97.25	169.9	123.1	94.5	11.6
Texas Instruments	TXN	180.38	146.6	104.0	76.3	15.5

"New New Industrials"

20 largest Nasdaq Composite stocks (excluding ADRs) not in the S&P 500, and that have been public for under five years.

Company	Symbol	3/9/2000 Price	Market Cap ($ billions)	1999 P/E	2000 P/E	1999 Price/Sales
Akamai	AKAM	286.00	$27.9	nmf	nmf	nmf
Amazon.Com [2]	AMZN	68.81	23.8	nmf	nmf	14.2
Ariba	ARBA	320.88	30.8	nmf	nmf	403.6
Broadcom Corp [2]	BRCM	239.00	49.8	531.1	329.0	94.1
BroadVision Inc	BVSN	267.13	21.2	nmf	903.3	183.4
Ciena Corp	CIEN	167.94	23.5	nmf	239.7	43.4
Echostar Comm [2]	DISH	130.31	29.7	nmf	nmf	19.0
E-Tek Dynamics	ETEK	277.88	18.9	421.0	303.7	93.6
Ebay [2]	EBAY	182.50	23.6	nmf	514.3	77.8
Exodus Comm [2]	EXDS	158.56	26.8	nmf	nmf	110.1
I2 Technologies	ITWO	220.88	33.7	nmf	617.4	nmf
Infospace [2]	INSP	256.94	24.4	nmf	nmf	673.7
Internet Cap Group	ICGE	139.44	35.3	nmf	nmf	58.7
Juniper Networks	JNPR	276.00	42.9	nmf	nmf	nmf
Level 3 Commun	LVLT	128.38	43.8	nmf	nmf	85.1
Metromedia Fiber	MFNX	86.56	20.1	nmf	nmf	253.6
Siebel Systems [2]	SEBL	167.69	31.3	319.4	229.6	535.4
Sycamore Netwrks	SCMR	174.06	41.1	nmf	nmf	40.9
Tibco Software	TIBX	136.75	24.8	nmf	nmf	161.0
Verisign	VRSN	240.75	24.7	nmf	nmf	292.3

Source: PaineWebber.

Nasdaq 100—A Modified Capitalization-Weighted Index

Nasdaq refers to the Nasdaq 100 index as a "modified capitalization-weighted" index. Nasdaq examines the index once a quarter to ensure the following criteria are met:

1. The current weight of the single largest market capitalization security in the index must be less than or equal to 24.0%.

2. The "collective weight" of those index securities, whose individual current weights are in excess of 4.5%, when added together, must be less than or equal to 48.0%.

If criteria (1) is violated, the weight of the security is set to 20.0% and the excess weight is distributed to the small stocks in the index. Small stocks are defined as stocks with a market cap weight of less than or equal to 1.0%.

If criteria (2) is violated, all large stocks (defined as stocks with a market cap weight of greater than 1.0%) are scaled down proportionately such that the "collective weight" is set to 40.0%. Small stocks, in turn, are scaled upwards.

Additional information available upon request.

Prices of other companies mentioned as of March 9, 2000:

AMR Corp	3	AMR	$54.19
American Express	3	AXP	$122.75
General Electric Co	3,6	GE	$131.75
Gillette		G	$31.06
Graco		GGG	$30.56
ITT Industries		IIN	$24.81
Litton Indus		LIT	$28.75
McDonalds Corp	3	MCD	$32.00
Philip Morris Co.		MO	$19.13
Texaco Inc		TX	$49.38
Textron	3	TXT	$53.88
UAL Corp	3	UAL	$46.38

2. PaineWebber Incorporated makes a market in this security.

3. PaineWebber Incorporated has acted in an investment banking capacity for this company.

6. General Electric owns over 20% of the outstanding stock of PaineWebber Group and has a representative on the board. General Electric has agreed to certain voting limitations. PaineWebber Group is the parent of PaineWebber Incorporated.