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Great (Growth) Expectations

On the Limits of Corporate Growth

"Castles in the air—they are so easy to take refuge in.
And so easy to build too."

Henrik Ibsen
Master Builder

"I see more *predictions of future earnings growth at high rates, not less. A few people have taken the abstinence pledge, but it's* very *few."*

Charlie Munger
Outstanding Investor Digest[1]

Compounding and Confounding

Managers and investors generally consider growth to be an absolute good. Managers routinely discuss stretch objectives and sometimes even embrace "big, hairy audacious" goals to motivate their employees and to impress their shareholders. Growth investors routinely seek companies that promise rapid, sustainable increases in sales and earnings.

But most investors do not intuitively understand the power, and onus, of compounding. To see how you stack up, take this little quiz:

One dollar today ($1) becomes how much when compounded over 20 years? Write the amount in the space provided.

Starting amount:	Compounded at:	Becomes how much after 20 years?
$1	2%	________
$1	7%	________
$1	15%	________
$1	20%	________

For most of us, these calculations do not come naturally. A 2% compounded annual growth rate (CAGR) over 20 years turns $1 into $1.49. A 7% growth rate equals $3.87. A 15% rate—a common earnings growth goal among large companies—implies a value of $16.37. And finally, $1 compounded at a 20% rate becomes $38.34.

How did you do? If you are like most people, you had difficulty properly gauging the relationship between the growth rate and the ending value. For example, it is not intuitive to most investors that an increase from 15% to 20% growth implies more than a value double after 20 years. That's why Albert Einstein called compounding the "eighth wonder of the world." The trick for investors is to make the compounding work *for* them, not *against* them.

Reality Check

In the insightful book, *Profit from the Core*, Bain & Company consultant Chris Zook reveals a study of the companies that actually achieved sustained growth in the 1990s.[2] The sample drew from over 1,800 companies in 7 countries that had sales in excess of $500 million.

con · sil'i · ence, *n.* [con- + salire to leap]
interlocking explanations of cause and effect between disciplines
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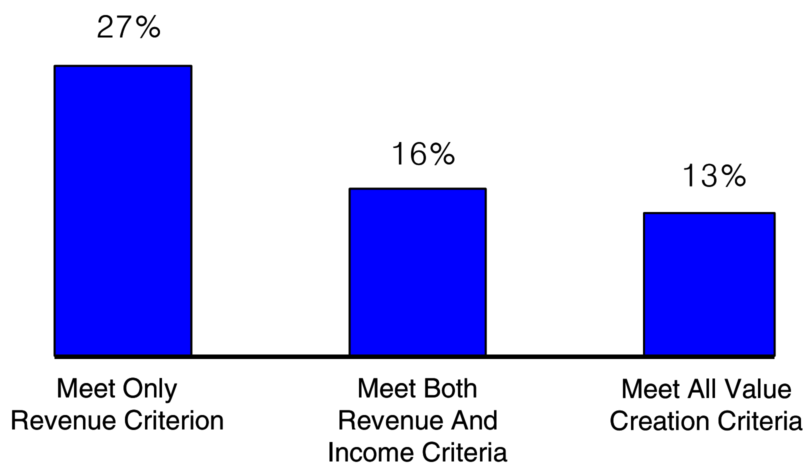
Zook set three hurdles:

- 5.5% real (inflation adjusted) sales growth
- 5.5% real earnings growth
- total shareholder returns in excess of the cost of capital

Notably, these targets are well below what most strategic plans suggest. In fact, Bain found that two-thirds of the companies it examined had double-digit nominal growth rates built into their plans.

Figure 1 shows the study results. As it turns out, only about 25% of all companies achieve the sales growth rate, and just one in eight meets all criteria for sustained growth. Notably, these results are against one of the most buoyant economic backdrops in a generation. The vast majority of companies seek (and plan!) to grow at a double-digit rate and the vast majority do not.

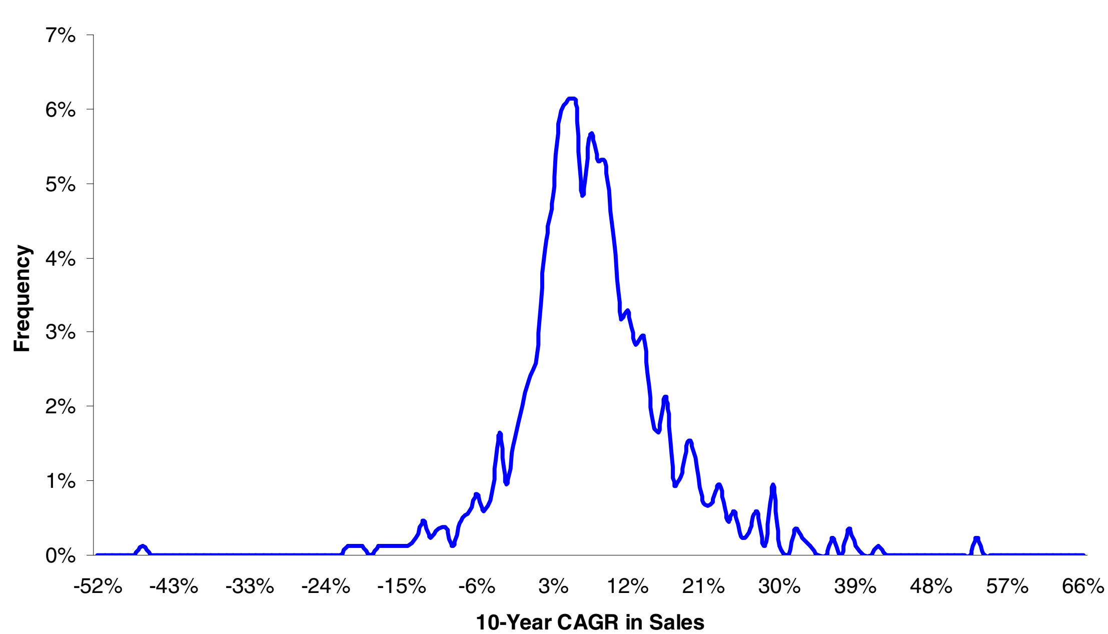
Figure 1: Few Companies Achieve Sustainable Growth



Source: Worldscope database, Bain analysis.

How acute is the potential gap between perception and reality? To check that, we first looked at the distribution of 10-year sales growth rates (1992-2001) for U.S. companies with base-year revenues in excess of $500 million. (See Figure 2.) The average growth rate for that group was 7.4%, and less than one-third of the companies sustained double-digit nominal top-line growth. Further, these growth rates do not adjust for acquisitions, so the organic growth rate is almost surely lower.[3]

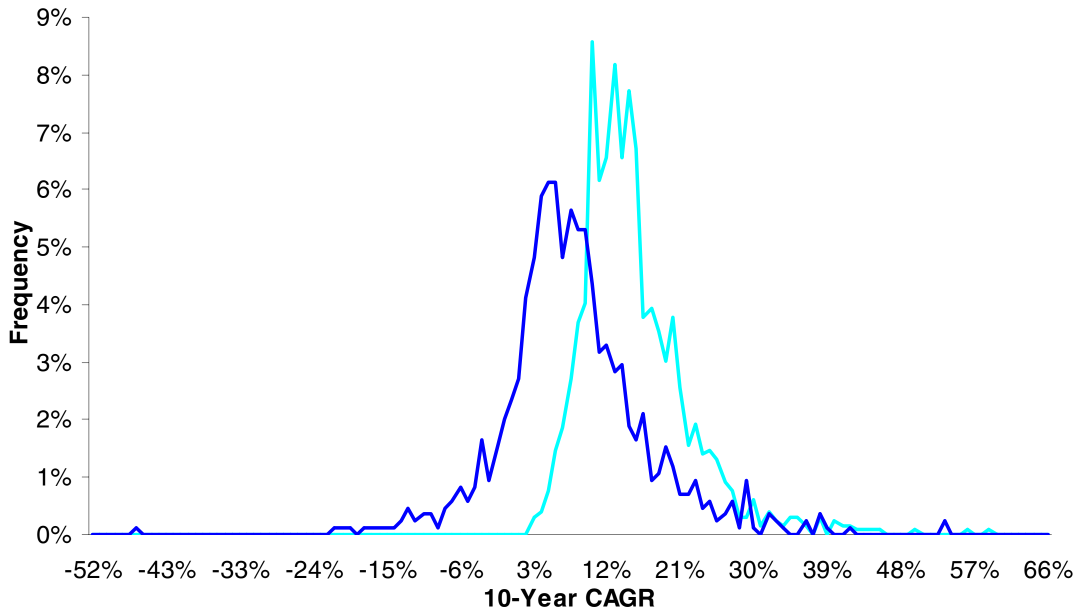
Figure 2: Frequency Distributions of 10-Year CAGRs in Sales, 1992-2001
for companies with $500M+ in base year revenue



Source: FactSet, CSFB analysis.

Next, we layered in projected three-year earnings growth for all companies with sales in excess of $500 million (2001 base). Even though the earnings growth has been historically roughly 100 basis point higher than sales growth, the analytical point is unchanged.[4] Notwithstanding two years of poor market performance, the average expected growth rate for this group, at 14.8%, is still roughly double the rates that companies achieved in the recent past. Also noteworthy is that the distribution of expected growth doesn't include any negative rates.

Figure 3: Expectations Gap?
for companies with $500M+ in base year revenue



Source: FactSet, CSFB analysis.

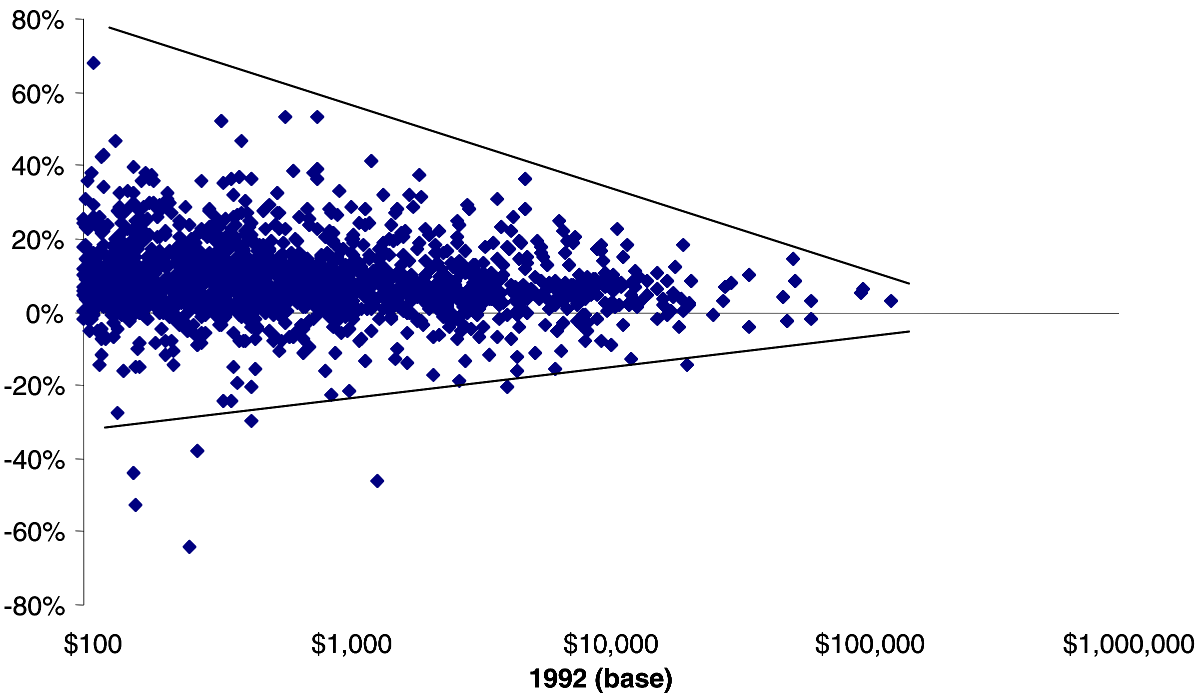
What is the significance of a 15% growth rate versus a 7% rate? Our compounding exercise shows that after 20 years at the 15% rate, the end value is roughly *four times higher*. As companies get larger, sustaining double-digit rates becomes very difficult. So if past is prologue, the expected growth rates for many companies will have to come down.

The Bigger They Are, the Slower They Grow (or Don't Grow)

The entire population of company sizes, like city sizes, tends to follow a distinct distribution.[5] In models that replicate this distribution, scientists note that *average* growth rates are independent of size and that the growth rate *variance* declines with size. Call it the cone of growth.

Figure 4 shows this graphically. Here we looked at the 10-year compounded annual sales growth rate for 1,600 U.S. companies. The horizontal axis is on a log scale. The chart shows that while the average growth rate for small and large companies is approximately the same, there is less likelihood that a large company will grow or shrink rapidly. Investors often call this the law of large numbers—big companies can't grow as fast as small companies—but it's more accurate to say that big company growth doesn't vary much from the average growth rate.[6]

Figure 4: Sales Growth CAGR
in millions



Source: FactSet, CSFB analysis.

Growth Is Not Bad

Readers who have gotten to this point may have the impression that all companies with high growth rate expectations are poor investments. Nothing can be further from the truth! The problem is that while we know that some companies *will* grow rapidly in the future, spurring upside revisions and attractive shareholder returns, we have no *systematic* way to identify those companies. Therein lies a great opportunity.

To demonstrate that growth is good but that it's hard to take advantage of it, we turn to Jeremy Siegel's excellent analysis of the Nifty Fifty in his investment classic *Stocks for the Long Run*.[7] The Nifty Fifty were the leading growth stocks in the early 1970s, and had high growth rate expectations and price/earnings (P/E) multiples in excess of 40. In the subsequent bear market of 1973-74, these stocks as a group dropped sharply.

Siegel asks a basic question: Were the Nifty Fifty overvalued in 1972 based on their subsequent total shareholder returns? Based on his analysis, the answer is no. While some stocks did much better than the market (Philip Morris, Gillette, Coca-Cola) and others did much worse (Burroughs, Polaroid, Black and Decker), on balance they delivered a return consistent with that of the overall market. Siegel's point is that based on ensuing performance, the warranted P/E in 1972 was much *higher* for some companies and much *lower* for others. But on average, the P/E was just about right.

We updated Siegel's data through 2001 and found that the conclusion remains the same. The total shareholder return for the surviving Nifty Fifty averaged 11.8%, essentially identical to the S&P 500's return. Earnings growth rates, too, are in-line with the market's. This is consistent with the evidence that growth and value funds tend to generate similar returns over time.

Refuse Refuge in Castles in the Air

That there's a gap between expectations and reality is not new. For example, bottom-up estimates of S&P 500 earnings have consistently been more optimistic than the top-down appraisal. But today the issue seems compounded by the earnings expectations game.[8] Managers and investors engage in an expectations-bar-raising ritual. Executives work to meet or beat Wall Street's forecasts, which encourages analysts to increase their expectations, and compels the executives to deliver even more growth—by whatever means possible.

USA Networks, which has sworn off the earnings expectations game and is disclosing its budgets to the financial community, summed it up in a 2001 SEC filing:[9]

"Among our concerns is that over the years negotiating expectations has moved from informal advisories into a cottage industry . . . into a new world. This evolution has created its own sophisticated art form promoting and managing expectations. Of course, this has nothing to do with actually operating a business on a day-to-day basis, and is becoming at best a distraction from the real work of the company . . . the 'at worst' conjuring doesn't need detailing here."

Gillette's new CEO, Jim Kilts, blazed a similar path by "ridiculing" the prior management's 18% earnings per share goal. He noted that unrealistic expectations led to excess overhead costs and actions aimed at boosting short-term results, including prices increases, lower advertising spending and building excess inventory, at the expense of the company's long term health.

Investors and managers must have reasonable expectations. The evidence shows that sustaining rapid growth is very difficult, especially for large corporations. Further, while there is nothing wrong with growth stocks, the indications are that it is very difficult to know which companies will exceed expectations and which will disappoint. Investors should continue to focus on investment ideas where the expected value is favorable—where the upside opportunity outstrips the downside risk.

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[1] Warren Buffett and Charlie Munger, "It's Stupid the Way People Extrapolate the Past—and Not *Slightly* Stupid, But *Massively* Stupid", *Outstanding Investor Digest*, December 24, 2001.
[2] Chris Zook with James Allen, *Profit from the Core* (Boston: Harvard Business School Press, 2001), 11-13.
[3] We mention this because voluminous evidence suggests that mergers and acquisitions are a value negative, or at best, a value neutral activity. So growth via acquisition is often not value creating.
[4] In the ten years ended 2001, the median sales growth rate for the Fortune 500 was 7.6% and the median earnings per share growth rate was 8.3%.
[5] Firm sizes and cities follow a Zipf distribution. This will be the subject of an upcoming report. See Robert L. Axtell, "Zipf Distribution of U.S. Firm Sizes," *Science*, vol. 293, September 7, 2001.
[6] This is an inappropriate use of the term "law of large numbers." For a further explanation, see Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk* (New York: John Wiley & Sons, 1996), 122-23.
[7] Jeremy J. Siegel, *Stocks for the Long Run, 2nd ed.* (New York: McGraw Hill, 1998), 105-114.
[8] Joseph Fuller and Michael C. Jensen, "Dare to Keep Your Stock Price Low" *The Wall Street Journal*, December 31, 2001.
[9] USA Networks, *SEC Filing*, October 24, 2001

AMSTERDAM............... 31 20 5754 890	KUALA LUMPUR.........603 2143 0366	SAN FRANCISCO...... 1 415 836 7600
ATLANTA 1 404 656 9500	LONDON 44 20 7888 8888	SÃO PAULO 55 11 3841 6000
AUCKLAND..................... 64 9 302 5500	MADRID 34 91 423 16 00	SEOUL 82 2 3707 3700
BALTIMORE.................. 1 410 223 3000	MELBOURNE 61 3 9280 1888	SHANGHAI............... 86 21 6881 8418
BANGKOK.......................... 62 614 6000	MEXICO CITY 52 5 283 89 00	SINGAPORE 65 212 2000
BEIJING....................... 86 10 6410 6611	MILAN 39 02 7702 1	SYDNEY 61 2 8205 4433
BOSTON........................ 1 617 556 5500	MOSCOW....................7 501 967 8200	TAIPEI 886 2 2715 6388
BUDAPEST 36 1 202 2188	MUMBAI......................91 22 230 6333	TOKYO 81 3 5404 9000
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