he or she was skillful (or lucky). However, it may also be because the manager was exposed to a market factor that had high returns. As you might already suspect, it turns out that most of the performance of top-ranked managers is due to their factor exposure and that few, if any, of these top-ranked managers actually demonstrate anything which looks like skill in a statistical sense.

Ultimately, the rewards of the capital marketplace go to those who can most intelligently balance the three risk factors, as well as the risks of their employment. A small example: Employees of cyclical, "value" companies should be particularly wary of value portfolios, as in the event of a severe recession both their job prospects and portfolios will suffer disproportionately. Workers who tend to keep their jobs in hard times, like letter carriers and repo men, are in a better position to own value stocks.

Investing in the New Era

The investment climate of the past five years has been so vastly different from that of the prior decades that a discussion of our so-called new era is warranted. As this book is being written, stocks are selling at valuations far higher than ever before seen. Dividend yields of large stocks, which typically range between 3% and 7%, are now 1.3%. P/B ratios, which typically run between 1 and 3, are now 8. And stocks now sell at about 30 times earnings, compared to the historical norm of between 10 and 20. Arguments as to how the old standards don't matter any more, and that we are in a "new era" attempt to rationalize current prices.

So, has the investment paradigm permanently changed? Are the old road markers now useless? Investment paradigms do sometimes shift: In 1958, for the first time in history, stock yields fell below bond yields, and disaster was predicted. None occurred (except for bonds!), and stock yields never again rose above bond yields.

And yet, it is difficult to argue against mathematics and the laws of gravity. In 1958 it could still be pointed out that stock dividends grew over time, whereas bond dividends, being fixed, did not. So it is not unreasonable that bond yields should be higher than stock yields.

But there is no getting around the fact that in the long run equity returns are closely approximated by the sum of the dividend rate, now

1.3%, and the earnings growth rate, historically about 5%. Add these together today and you get an expected stock return of 6.3%. So, in order to justify current valuations one has to postulate that earnings and dividends will begin to rise faster than they have in the past.

No such thing seems to be happening. Go back to Figure 2-11, which plots Dow earnings over the past 80 years. The top surface of the plot is the place to focus. From time to time, recessions and depressions produce sharp downward deviations in earnings, but the upper surface of the plot represents the "full capacity" of corporate earnings. Do you see an accelerating trend the past decade or two? If you do, Mulder and Scully are right outside, and they have some little green men they'd like you to meet.

One often hears the argument that with the accelerating pace of technological change, U.S. companies are on the verge of dramatically increased profitability. A bit of historical perspective is useful. The period from 1830 to 1860 saw the arrival of the two most dramatically transformative inventions in the history of mankind—the steam engine and the telegraph. Within a few short decades, the speed of cross-country transportation increased by almost an order of magnitude. Cheap and reliable power became available to manufacturers for the first time in history. Long-distance communication became almost instantaneous. Of course, the past 30 years have also seen wondrous technological innovation. However, consider that today really important news gets from New York to San Francisco only slightly faster than in Grover Cleveland's time and, more likely than not, it takes you and me *longer* to travel cross town or cross country today than it did 30 years ago. Oh yes, the return of U.S. equity from 1830 to 1860 was 4.2%.

In fact, we've heard the new-era argument before—first in 1926–1929, then in the late 1960s. On both occasions, the conventional wisdom was that the old methods of stock valuation had become obsolete and that it was acceptable to pay 50 or 100 times earnings for companies poised on the cutting edge of technological progress. I cannot recommend highly enough Ben Graham's description of the new-era stock market of the 1920s in the recently reprinted 1934 edition of *Security Analysis*. One does not have to change very many words to get a vivid description of today's market frenzy surrounding technology and Internet-related earnings. Just change "100 times earnings" to "100 times sales" and you're there.

Finally, it's worth reflecting on the recent returns of some selected asset classes. For the 10-year period from 1989 to 1998, the return of the Barra Large Cap Growth Index was an astonishing 21.35% annualized; the large-cap value index 16.67%; for 9–10 decile small-cap stocks, 13.2%; and the EAFE index, of foreign stocks 5.54%. The experience of the past decade has convinced many that large-cap stocks have higher returns than small-cap stocks, that growth outperforms value, and that domestic outperforms foreign. As we've seen from more complete historical data, it is likely that none of these assumptions is true.

For those tempted to invest all their money in McDonald's, Coke, Microsoft, and Intel, I've calculated the growth of $1 invested from July 1927 to March 1998 for the most extreme quintiles of small value, small growth, large value, and large growth in Figure 7-7. The annualized returns were 17.47% for small value, 2.18% for small growth, 13.99% for large value, and 10.04% for large growth. One always has to be cautious interpreting historical data. First, they do
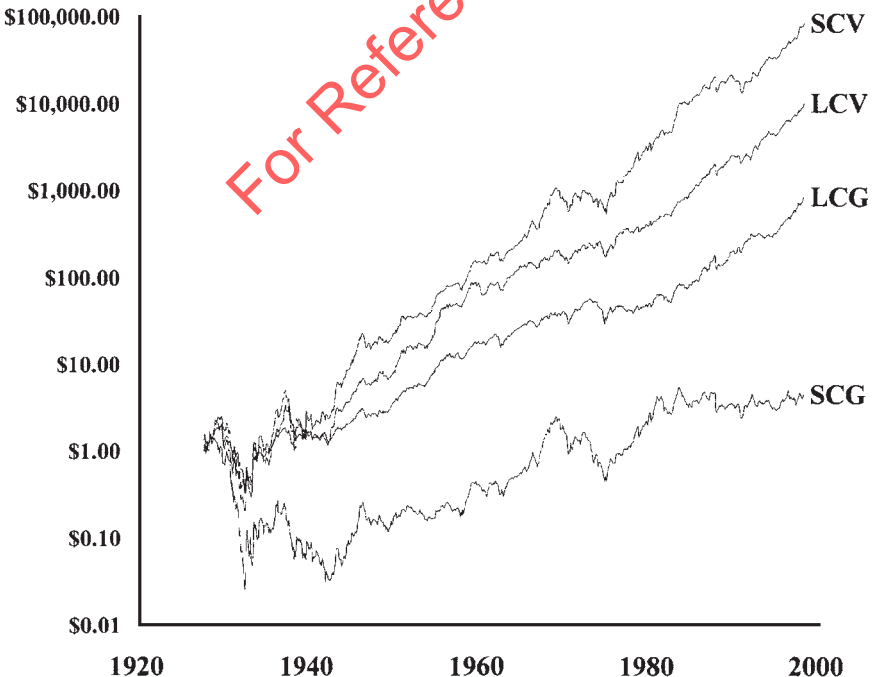

Figure 7-7. Value of $1 invested July 1927. (Source: Kenneth French)

not include the trading expenses detailed earlier in Chapter 6. Second, the pre-1960s data is extremely sketchy in places.

That said, the message is clear: Over the long term value beats growth, and small value may very well beat everything else. The miserable returns for small growth stocks will hopefully come as a wake-up call to those of you considering investing in small technology companies. Recent returns in this area have not been quite that bad, with the real damage being sustained in the pre-1960 era. But clearly, this is an area to be wary of.

In fact, the poor returns of small growth stocks are something of a mystery, as they are even lower than academic theory would predict. My own theory is that there is a "lottery ticket" premium being charged these investors. Just as people purchase lottery tickets, which have a return of about −50%, on the off chance that they may win the grand prize, so too do investors invest in small, rapidly growing companies on the slim chance that they are getting in on the ground floor of the next Microsoft. In other words, this asset class makes up in entertainment value what it lacks in return.

The New Paradigm: Dow 36,000

The new era has recently gotten a persuasive boost from the best-seller list. Writing in the op-ed section of *The Wall Street Journal*, the *Atlantic Monthly*, and more recently their book, *Dow 36,000*, journalist James Glassman and economist Kevin Hassett (hereafter referred to as GH) contend that the market, far from being historically overvalued, is actually ridiculously undervalued. Nervous at Dow 11,000? Get over it. This fearless duo sees fair value at about 36,000.

Their chosen vehicle is the venerable discounted dividend model (DDM), which we have already encountered in Chapter 2. Formulated in 1938 by John Burr Williams, it rests on a deceptively simple premise: Since all companies eventually go bankrupt, the value of a stock, a bond, or an entire market is simply the value of all its future dividends *discounted to the present*. (In GH-speak, this is referred to as the "perfectly reasonable price," or PRP.) Since a dollar of future dividends is worth less than a dollar today, its value must be reduced, or *discounted*, to reflect the fact that you will not receive it immediately. This amount of reduction is called the *discount rate*

(DR). And as we shall soon see, fiddling even a little bit with the DR opens the door to all kinds of mischief.

If this model looks complicated, it is. For each future year you take the present dividend, multiply it by $(1 + g)^n$, where g is the rate of dividend increase and n is the number of years in the future, and then divide by $(1 + DR)^n$. Plus, you have to compute this for an infinite number of years. It can get worse, with two- and three-stage models with varying growth rates over time. But don't sweat the math, because with a constant growth rate the whole infinite sequence simplifies to:

$$PRP = (\text{div})/(DR - g)$$

where PRP = perfectly reasonable price
      div = annual dividend amount
      DR = discount rate
       g = dividend growth rate

If the Dow throws off about $150 per year in dividends, and if you optimistically assume (as GH do) that dividends are growing at 6% per year, then the only other number left to toss into the above equation is that pesky DR. And amazingly, throughout much of the book GH maintain that the appropriate DR is the Treasury bond rate, which at the time was 5.5%. Because the growth rate is greater than the DR, an infinite value for the market results (because in this case the discounted dividend rises each and every year, *ad infinitum*), which even they find hard to swallow. (What the authors missed is that their 6% dividend growth rate covered a period when inflation was around 4%–5%, while the recent 5.5% rate for Treasury bonds presumably reflects a considerably lower future inflation rate.) So lower the dividend growth to 5.1%, keep the DR at 5.5%, and abracadabra, the above equation yields Dow 37,500:

$$PRP = 150/(.055 - .051) = 150/.004 = 37,500$$

Per finance convention, the numbers in the denominator are expressed as decimals, where .055 refers to the DR of 5.5%, and .051 to the dividend growth rate of 5.1%. Notice how tiny the denominator of .004 is relative to the input numbers. Move both of the numbers in the denominator the wrong way by just 1% (.01) and you have a Dow PRP of 6250. And if that displeases you, make your estimates
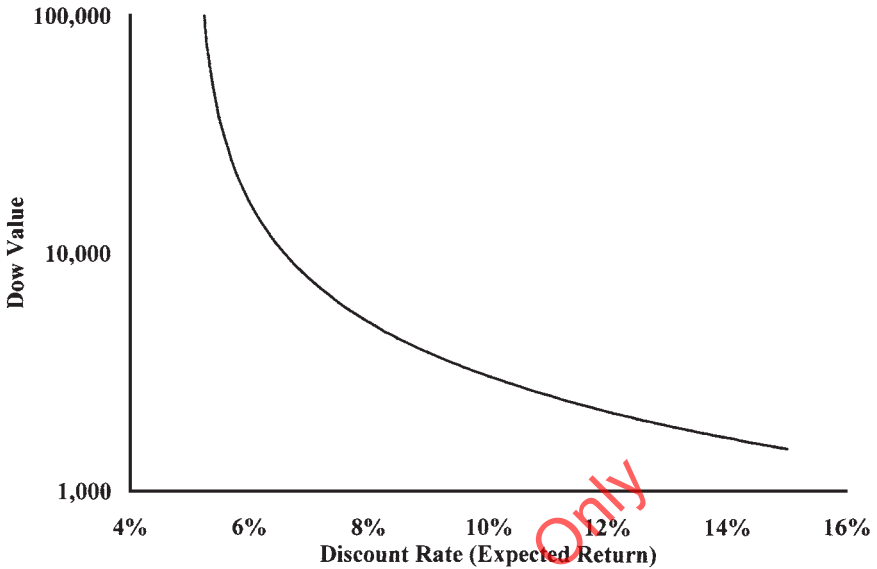
Figure 7-8. 1999 dividends = $150, growth = 5.1%.

just a hair more optimistic, and you get a Dow PRP of infinity. In other words, using the GH model, you can make the PRP of the Dow whatever you want it to be by moving the discount rate and growth rate a smidgen in either direction.

The Glassman-Hassett model is akin to balancing an elephant on a fence post: One small wobble in the post and several thousand pounds will lurch in an unexpected direction. This is evidenced by Figure 7-8, which shows the Dow's value using the Glassman-Hassett growth assumptions over a range of discount rates.

To reiterate, the value of the DR is critical. For example, if the actual DR is 8% instead of 5.5%, then fair value for the Dow falls to 5172. Oops. The same thing happens if the dividend growth estimate is off. As already mentioned, the 6% dividend growth of the past two decades included over 4% of inflation. In other words, real growth was less than 2%. So the dividend growth rate going forward may be quite a bit lower than it has been in the past. Decreasing dividend growth by 2.5% has the same effect as increasing the DR by the same amount—Dow 5172.

So what determines the appropriate DR? It is very simply two things: the cost of money (or the risk-free rate) plus an additional amount to compensate for risk.

Think of the DR as the interest rate a reasonable lender would charge a given loan applicant. The world's safest borrower is the U.S. Treasury. If Uncle Sam comes my way and wants a long-term loan, I'll charge him just 6%. At that DR the DDM predicts that a perpetual $1 annual loan repayment, or coupon, is worth a $16.67 loan.

Next through the door is General Motors. Still pretty safe, but not as riskless as Uncle Sam. I'll charge them 7.5%. At that DR a perpetual $1 repayment/coupon is worth a $13.33 loan.

Finally, in struts Trump Casinos. Phew! For the risk of lending these clowns my money I'll have to charge 12.5%, which means that The Donald's perpetual $1 repayment/coupon is worth only an $8 loan.

So the DR we apply to the market's dividend stream hinges on just how risky we think the market is. And here things get really sticky. Relying on long-term data, GH observe that the stock market is actually less risky than the long Treasury bond. For example, since 1926 the worst 30-year annualized return for common stocks was 8.47% versus only 1.53% for Treasuries.

Of course, a very different picture emerges when one looks at shorter periods. For example, the worst one-year returns are −43.35% for stocks and −7.78% for bonds. And at a gut level, no matter how much of a long-term investor you think you are, the market still probably got your attention on October 19, 1987.

So the GH-Dow controversy depends on whether you think that investors experience risk as a short-term or a long-term phenomenon. What the authors are saying is that U.S. investors have abruptly lengthened their risk time horizon:

> Seventy years ago few investors understood that excessive trading undermines profits, that stock-price fluctuations tend to cancel themselves out over time, making stocks less risky than they might appear at first glance, and that it is extremely difficult to outperform the market averages. Americans have learned to buy and hold.

One wonders what planet GH inhabit. Are they unaware that trading volume has been steadily increasing for decades, not decreasing? That average domestic mutual fund turnover has increased from 30% to over 90% in the past 25 years? That a recent survey of over 66,000 accounts at a large West Coast discount brokerage showed an average annual portfolio turnover of 75%? That

only 7% of mutual fund investments are indexed? That the historically modest market declines of 1987, 1990, and 1997, far from resulting in inflows from legions of long-termers buying cheap, produced dramatic mutual fund outflows? Most authoritatively of all, in an elegant study published in the *Quarterly Journal of Economics* in 1993 Shlomo Benzarti and Richard Thaler calculated that the risk horizon of the average investor was just *one year.*

The easiest way of thinking about the interplay of short- and long-term risk is to imagine a new kind of 30-year Treasury bond, similar to the conventional bond, *except that the government stands ready at all times to redeem it at par* (face value). Clearly, the redeemable bond would carry a considerably higher price and lower yield because it is immunized against the shock of a short-term increase in rates. And yet on the GH planet, where investors only care about long-term return, it would be priced identically to the conventional 30-year bond, since both have the same return to maturity.

Even conceding GH's point that investors are increasingly focused on stocks for the long run and will manage to push the Dow up past 36,000, one has to ask just how free of risk stocks would be at that point. The authors ignore a rather inconvenient fact: that recent market history has dramatic effects on DR. In 1928, just as today, everybody was a "long-term investor," and the DR for stocks was quite low (although probably not as low as it is today). Five years later, with the attrition rate of buy-and-holders approaching 100%, the DR was dramatically higher. And at Dow 36,000, it wouldn't take much of a change in the DR in order for the risk-free world of stocks to come to an abrupt end. If investors decided that they demanded even a measly 1% risk premium, the Dow would decline by about two-thirds. The irony being that to the extent GH are right about a near-term "correction" of stock prices past 36,000, the risks of subsequent stock ownership increase dramatically.

Ignoring the crash scenario still does not make the GH planet look very appetizing. For the DR has another, even more profound significance. Namely, that *the DR of an asset is the same as its expected return.* If the true discount rate is 5.5% and the Dow is correctly priced at 36,000, then the future return of stocks is also 5.5%. Assuming inflation averages 2.5% over the next 30 years, that's a real return of just 3%. Why would any rational investor invest in stocks

priced to a 3% real return with Treasury Inflation Protected Securities (TIPS) priced to produce a guaranteed 4% real return?

There are other, more fundamental problems with Dow 36,000. For starters, consider the significance of a 5.5% long-term stock return. The "cost of capital" for corporations is necessarily the same as this long-term return. At a dirt-cheap capital cost of 5.5%, corporations are not going to be particularly careful about how they spend it. The free-spending behavior of the dot-coms, whose capital comes even cheaper, is not encouraging. (Or, on a grander scale, just how careful is Uncle Sam with his 5.5% capital?)

That said, on rare occasions investment paradigms do dramatically and permanently shift. We've already mentioned what happened in 1958, when for the first time stock yields fell below bond yields. At the time there was an almost universal outcry from financial pundits that this was an unnatural state of affairs and that stock prices were destined to fall, once again raising their yields, so as to restore the old order. And yet the stock market never looked back; prices continued to rise, and stock yields fell even farther below bond yields. (New paradigms can also be painful. The year 1958 also brought the start of a bear market in bonds much worse than anything seen since the time of Alexander Hamilton.) Today, stocks yield a full 4%–5% less than bonds. So I would not dismiss *Dow 36,000* out of hand. But some skepticism is in order. (Even the authors themselves admit that they could be wrong, and thus hold about 20% of their assets in bonds.)

Hedging: Currency Effects on Foreign Holdings

The holder of a foreign stock or bond is subject not only to the intrinsic risks of that security but also to the additional risk of currency fluctuation. For example, a bond denominated in U.K. pounds will rise or fall in value along with the value of that currency relative to the dollar. This currency risk can be eliminated (*hedged*) by selling forward a pound contract in the futures market at nominal cost. In the real world, you must first buy something before you sell it. But in finance, you can often sell something first before buying it back later; this is called *selling forward* (and is similar to "shorting" a stock).

grounds. I found it remarkable that most of the analysts I have spoken to have not read either book.

13. *Stocks, Bonds, Bills, and Inflation*, from Ibbotson Associates. Contains extremely detailed financial data on many important U.S. assets going back to 1926, as well as an excellent description of the mathematical operations involved in asset and portfolio analysis.

Finally, I'm often asked how I "keep up" with finance. Actually, a more accurate term would be "keep back." The most effective way of coping with current market conditions is to learn as much about market history as you possibly can. A superb place to start is Charles Mackay's *Memoirs of Extraordinary Popular Delusions and the Madness of Crowds*, originally published in 1841, and easily available from reprinted editions. The first chapters detail the Mississippi Scheme, South Sea Bubble, and Tulipomania of centuries ago. Change a few of the names and you're reading about Internet stocks.

Also, I suggest almost anything by James Grant, whose entertaining prose and grasp of financial history are second to none. (*Money of the Mind*, *Minding Mr. Market*, and *The Trouble with Prosperity* are all excellent places to start.)

If you *really* want to keep up, subscribe to the *Journal of Finance* ($80 per year, along with membership in the American Finance Association) and *Financial Analysts Journal* (about $150 per year). The pieces tend to be abstruse, jargonistic, and strewn with incomprehensible formulae, but about once per issue there is a truly important and comprehensible piece which pays for the subscription. For hard-core finance types only.

Useful Websites for the Asset Allocator

When I wrote the previous versions of this book, I was not impressed with the quality of advice and data available on-line. No longer—there is now a cornucopia of useful information out there. Below is a very incomplete list:

Investing for the 21st Century (http://www.fee-only-advisor.com/book/index.html): Frank Armstrong's grandaddy of all on-line investing books. Frank's perspective is similar to my own, except that he's funnier and better looking. His dog, Schatzke, is better