The Basics of Investing

How to Make Money in the Current Investment Climate

Muhlenkamp & Company, Inc.
Intelligent Investment Management


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Ronald H. Muhlenkamp is founder and president of Muhlenkamp & Company, Inc., established in 1977 to manage private accounts for individuals and institutions. In 1988, Muhlenkamp & Company launched a no-load mutual fund as an investment vehicle for all investors, no matter their asset size.

A top-rated investment manager, frequent guest of the media, and featured speaker at investment shows nationwide, Mr. Muhlenkamp's entire business career has been devoted to the professional management of investment portfolios. His work since 1968 has been focused on extensive studies of investment management philosophies, both fundamental and technical. As a result of this research, he developed a proprietary method of evaluating both equity and fixed income securities, which continues to be employed by Muhlenkamp & Company. In addition to publishing his quarterly newsletter, *Muhlenkamp Memorandum*, Mr. Muhlenkamp is the author of *Harvesting Profits on Wall Street: Essays in Investing*.

Mr. Muhlenkamp received a Bachelor of Science degree in Engineering from M.I.T. in 1966, and a Masters in Business Administration from the Harvard Business School in 1968. He holds a Chartered Financial Analyst (CFA) designation. He and his wife, Connie, make their home on a farm near Pittsburgh, but travel extensively to meet and talk with companies and clients around the country.

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The Basics of Investing

Adapted from a presentation delivered at the Muhlenkamp & Company Seminar in December 2002. Supporting figures are updated through 2005, when available.

This booklet is a brief overview of the fundamentals of intelligent investment management—an attempt to answer the following questions: "What works?" "What makes sense?" "What doesn't?" and "Why?"

The facts shown in the tables and charts are nothing new. But, hopefully, our interpretation of these facts will give you something new to think about. You may find it gives you a new perspective on investing which shows that the market can be rational. It may even let you see that much of what the media is telling you about the market is simply sensational hype. And knowing this may let you, the investor, sleep better at night.

The first step in understanding investing is to understand money. So in Part 1 we talk about money, inflation, and how inflation drives the investing climate. Then we show you how recognizing the investing climate can make you money.

In Part 2, we review the three classes of securities: short-term debt, long-term debt, and equities. How do they work? What drives their returns? Where should the intelligent investor put his or her money?

The Basics of Investing is the survivor's guide to investing. Understanding the basics can help make sense of all the changing, and often conflicting, investing information that surrounds us. We find that if you don't get too far from the basics, you won't get tagged too far off base.

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The Basics of Investing
Part 1: Understanding Money

In order to understand investing, you have to first understand money. In order to understand today's investing markets, you need to first understand the last 50 years, which set the background for today's market. The primary driver of major market changes (what we call climate changes) during that time has been inflation and what it has done to our money. Let's start with that.

Figure 1 Inflation and What It's Done to Our Money

1968 **1978** **2006**

Figure 1 shows three postage stamps: 1968, 1978, and 2006– 6 cents, 13 cents, and 39 cents. Each stamp has the same value. Each stamp is first-class postage in the United States. Each stamp has a different price and a different date. What changed between 1968 and 2006 wasn't the value of the stamp, it was the value of the dollar.

Between 1968 and 1978, the dollar lost half its value. So, to get the same value, you had to double the price of the stamp. From 1978 to 2006 the dollar lost two-thirds of its value, so you had to triple the price of a stamp.

Our federal government has standards on the gallon, so no one can cheat you on a gallon of gas. There are standards on the bushel, there are standards on the ton, and there are standards on the yard and the foot, but there are no standards on the value of our money. We run into trouble when we think of the value of the dollar as being fixed, like our other measures. To illustrate my point, imagine what would happen if there was no standard on one of our other measures.

"Over time, the effect of inflation on our money can be tremendous. We can't afford to overlook it."

My wife Connie is a seamstress. She buys fabric by the yard. Suppose the fabric store where she buys fabric manages to shrink their yardstick by a quarter-inch each month. A quarter-inch a month, three inches per year, that's 8% per year. (Between 1968 and 1978, inflation was about 8% a year.) So my wife starts getting short on fabric. She remeasures the fabric with her own yardstick and concludes that the store is cheating her. But what if they also manage to shrink her yardstick by a quarter-inch per month? Now she swears that I'm growing taller! The point is that in 1968 dollars I'm 39 feet tall! If our yardsticks had shrunk at the same rate as our money, I'd be 39 feet tall in today's measure. The effects of inflation can easily be overlooked because inflation shrinks everyone's yardstick. Over time, the effect of inflation on our money can be tremendous. We can't afford to overlook it.

Figure 2 Inflation, 1952–2005

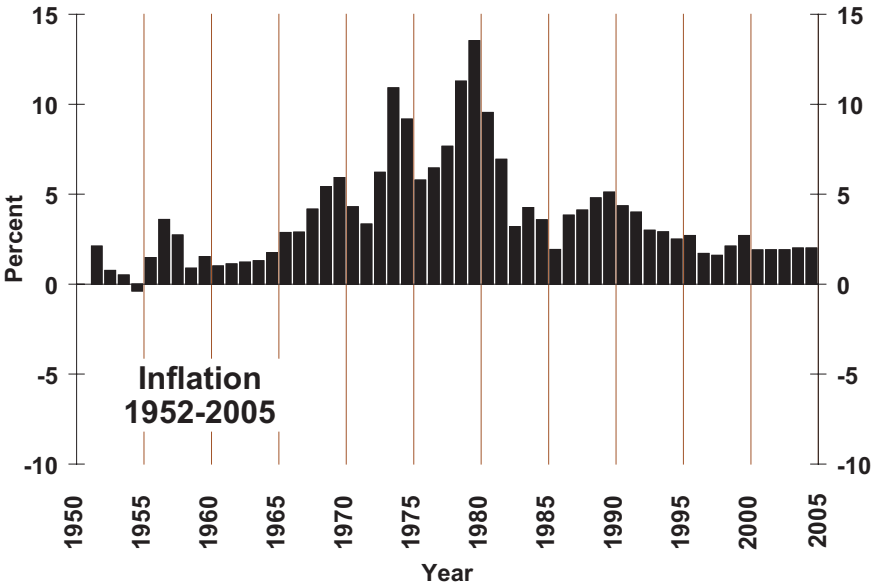
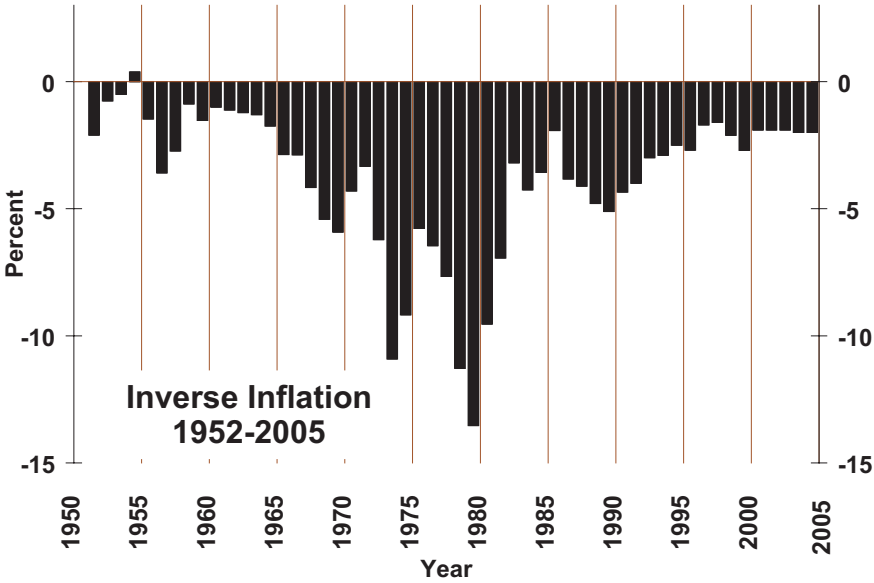


Figure 2 plots the Consumer Price Index (CPI), which is the standard measure of inflation, since 1952. Most people, as consumers, think of inflation as prices moving up—and they've moved up by these amounts, year by year, over that 53-year period. As investors, we think of inflation not as prices moving up but as the value of money shrinking, which is shown in Figure 3. Same information—different perspective.

Figure 3 Inverse Inflation, 1952–2005

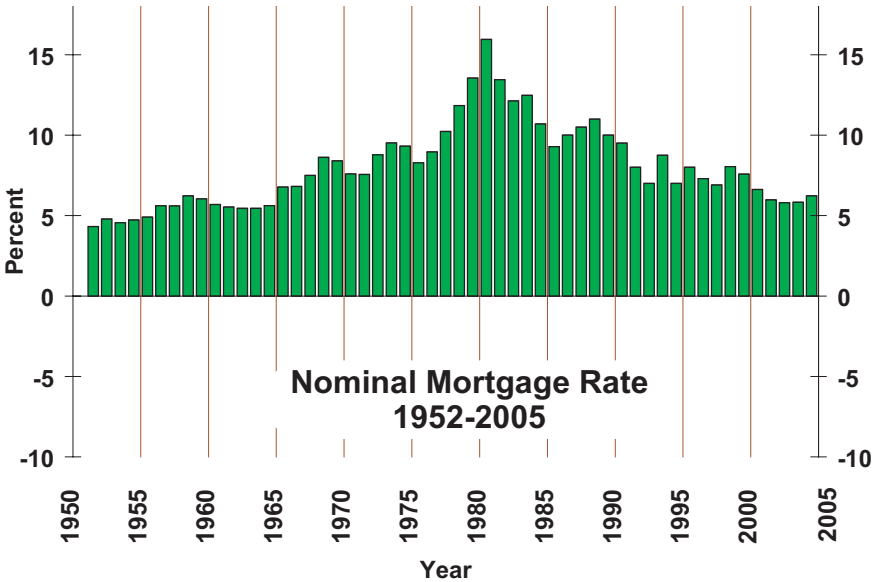


Your money, whether it's income or assets, lost value by this rate each year for the last 53 years. Over that period of time, what used to be a dollar shrank to about 15 cents. This is the rate at which our yardstick has been shrinking. If you are talking about investing, everything is measured in dollars, which means it's measured by this yardstick. The first thing you have to do with those dollars is to adjust them for the shrinking yardstick. Since most people have more experience with real estate (especially homes and mortgages) than with stocks and bonds, we're going to talk about real estate assets and, in particular, mortgages to explain what has happened to the value of your money over the last 53 years.

Inflation and Mortgage Rates—Understanding Climate Change

Figure 4 plots the nominal mortgage rate from 1952 to 2005. This is the rate that would have been quoted to you by a bank or a savings and loan organization. In 1951 my father bought a farm and had a 4½% mortgage. All the neighbors said, "Izzy, you'll go broke in the next depression." There had been a depression after World War I, and everybody expected one after World War II. Even though he put 40% down and financed the other 60% at 4½%, he didn't eat or sleep for two days because this debt scared him to death. Incidentally, his interest cost was less than it cost to rent a house.

Figure 4 Nominal Mortgage Rate, 1952–2005



In 1971, my wife Connie and I bought a house with a 7½% mortgage. Dad said, "Ron, that's awful high." I said, "All I know is that on an after-tax basis, this mortgage is costing me no more than the apartment we live in." So, on a month-to-month basis, after taxes, the cost was the same. That's all I knew. Fortunately, that's all I needed to know.

In 1981 my brother Rod bought a house with a 14% mortgage. I said, "Rod, that's high." He said, "Don't worry about it. Inflation will go up and take care of me. The price of the house will go up. I'm not worried about it." Think about that. My father feared a 4½% mortgage. My brother did not fear a 14% mortgage. This is a complete reversal of attitude because of a change in the economic climate.

Figure 5 Nominal Mortgage Rate and Inverse Inflation, 1952–2005

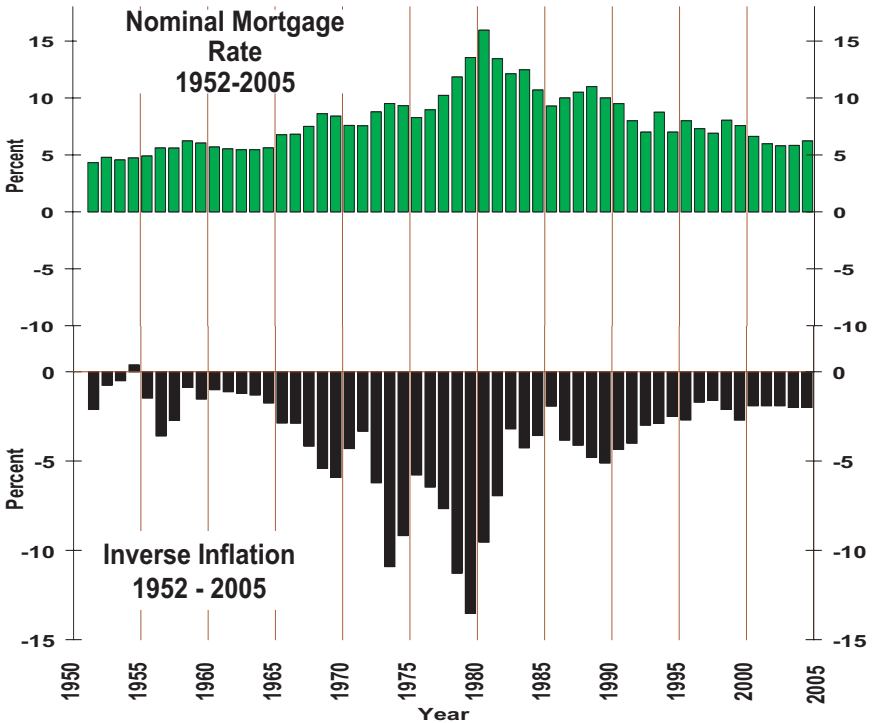
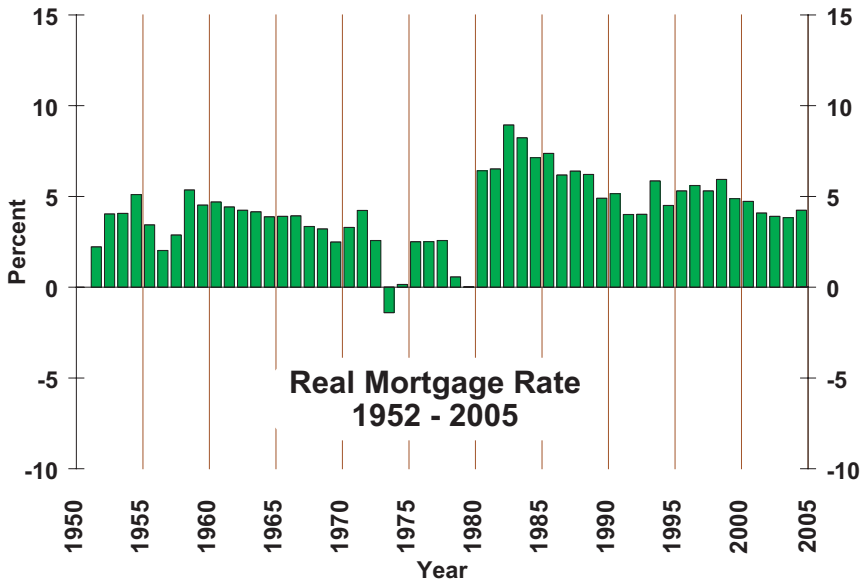


Figure 5 is simply the nominal mortgage rate plotted along with the inverse of inflation. At first glance these charts look a whole lot alike. But, in fact, inflation ran up long before mortgage rates. Then, in the 1980s, inflation ran down quickly, and mortgage rates came down gradually. All through the 1970s people said, "Yes, inflation is up, but it will come back down." All through the 1980s people said, "Yes, inflation is down, but

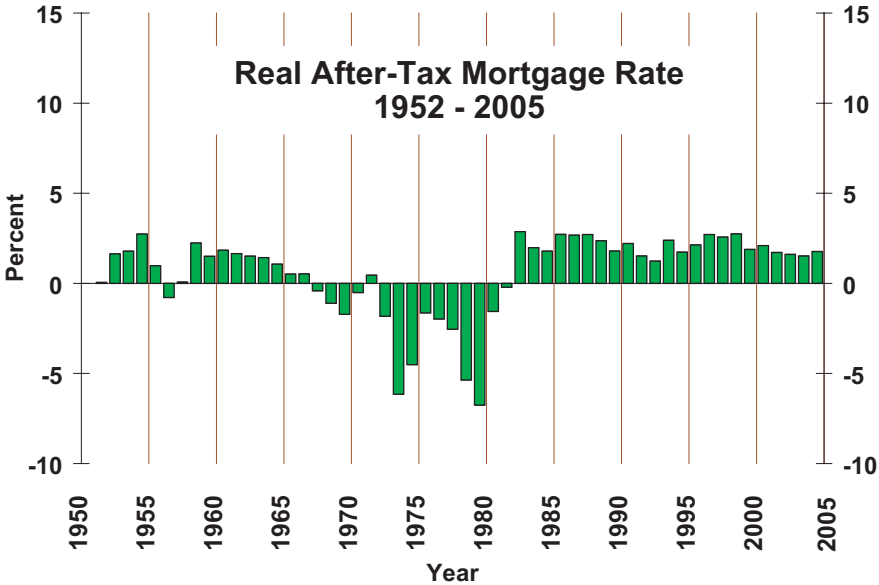
it will go back up." There was a huge lag in perception behind reality. Some folks like to say that Wall Street anticipates the future, six months out. And it does, on some things like earnings. But it was a decade late on changes in inflation—changes in the value of money. Perception of inflation, first up and then down, lagged reality by a decade. Those lags can make you (or cost you) an awful lot of money. If we net these two charts, we get "real" mortgage rates (nominal rates minus inflation), as shown in Figure 6.

Figure 6 Real Mortgage Rate, 1952–2005



As you know, the interest on mortgages is tax deductible, so if we adjust for taxes, we get Figure 7:

Figure 7 Real After-Tax Mortgage Rate, 1952–2005



That looks different, doesn't it? We are seeing three different economic climates:

- From 1952 to 1967, long-term debt cost you money. My father's 4½% mortgage, after taxes and inflation, was costing 2%, so we worked like dogs to pay it off early.
- From 1969 to 1981, long-term debt actually made you money. Connie and I bought a house in 1971. Within a short period of time, I realized that the last thing I wanted to do was to pay off my mortgage early. My mortgage was making me money! I wish I had bought a bigger house with a bigger mortgage. Remember the phrase, "Trade up on the equity"? From 1969 to 1981, the economic climate made borrowing a winning proposition. "Trade up on the equity" worked. But the climate changed again.

- By 1982, borrowing money was once again a liability. My brother's 14% mortgage was costing him money. Within a couple of years, he'd rolled it down to 11%, still costing him money. All through the 1980s he was willing to pay 11% because he assumed that inflation was going back up. He assumed inflation was going back up because he thought what he saw in the 1970s was normal. He didn't realize that the economic climate had changed.

When the Climate Changes, It Changes the Rules

Understanding the climate changes illustrated in Figure 7 is critical to understanding many of the successes and pitfalls of investing for the last fifty years. It is that important. It illustrates why a strategy that works at one time, suddenly doesn't in another. In other words, when the climate changes, it changes the rules. The best thing you and I could do in the 1970s was to borrow money. For most of us, the way to borrow money was to buy real estate. My farmer cousins who bought farmland in the 1970s are millionaires today. Those who started buying farmland in the 1980s went bankrupt. My point is when the climate changes, when the value of the money changes, it changes everything — certainly everything valued in money. You don't have to predict this, but you do have to recognize it.

The Basics of Investing Part 2: The Investing Choices

In *Part 1*, we talked about money, inflation and the economic climate. Now it's time to turn to the question on every investor's mind—how to increase wealth through investing? There are really only three classes of securities: short-term debt, long-term debt, and equities. We review all three, then show you how to make sense of your choices.

In every investment transaction there are two parties: the lender and the borrower, or the buyer and the seller. When an individual, corporation, or government needs more money, they can take out a loan, issue bonds, or issue stock, but this will only provide money if someone is willing to issue the loan, buy the bond, or buy the stock. The needs of both parties must be met, or the transaction will not take place. So in looking at securities, we must keep both parties in mind.

Investing Choice 1: Short-Term Debt

Short-term debt securities include such things as passbook savings accounts, CDs, and Treasury bills. These investments are considered safe because the principal is often guaranteed by the federal government (i.e., the American taxpayer) through the Federal Deposit Insurance Corporation (FDIC). The interest rates on short-term debt are set by the market, but are heavily influenced by the Federal Reserve Board.

Figure 8 Nominal Treasury Bill Rate, 1952–2005

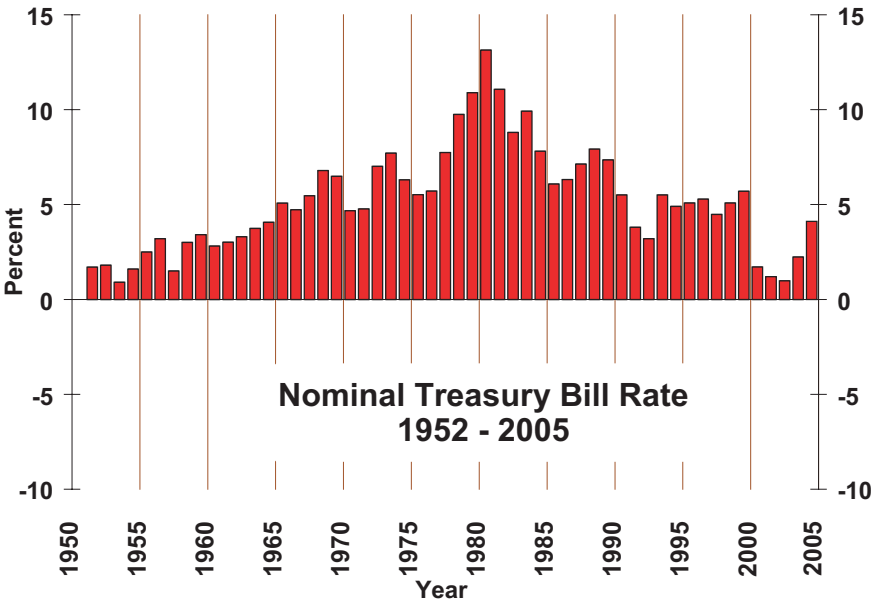
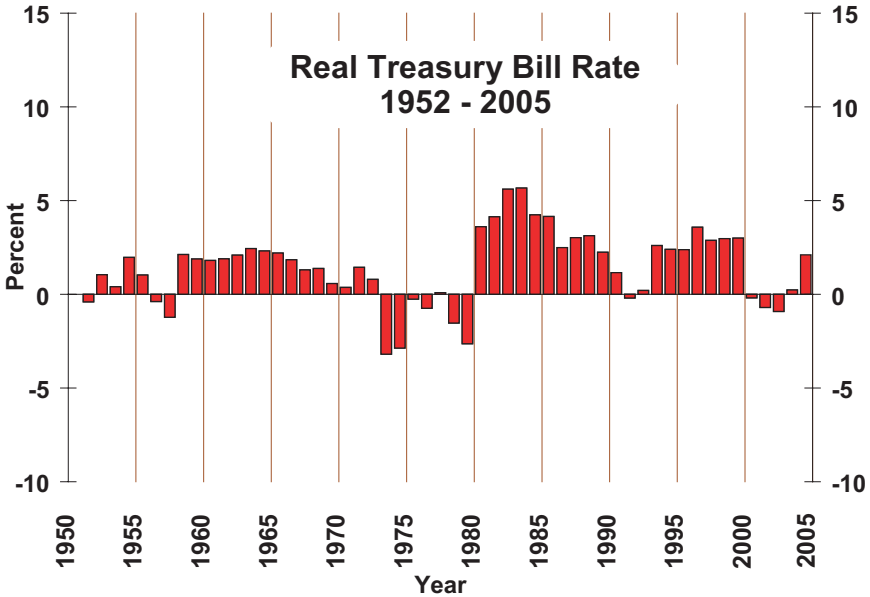


Figure 8 shows the nominal rates on Treasury bills since 1952. Treasury bills (T-Bills) are perfectly safe, right? But remember, we need to adjust for inflation. Adjusted for inflation, T-Bill rates look like Figure 9.

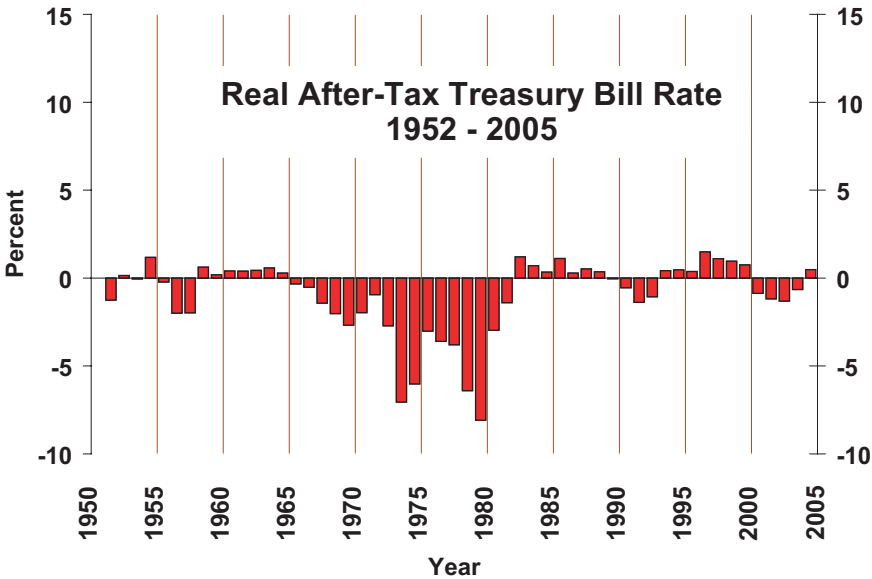
Figure 9 Real Treasury Bill Rate, 1952-2005



Now T-Bills don't look quite as good. When the Treasury bill rate is less than inflation, the investor is losing purchasing power. The Treasury bill principal may be guaranteed in nominal (dollar) terms, but your purchasing power is not. When short-term interest rates are lower than inflation, the borrower is actually making money simply by borrowing. The lender is losing money. So in 2002, when people fear that the Fed is going to raise interest rates, be aware that it *should* raise interest rates. Interest rates ought to move up to get the inflation-adjusted Treasury bill rates back to a positive real return. As of year-end 2005, they've done it.

If you're a taxpayer, we also need to adjust for taxes, which makes T-Bills look like Figure 10.

Figure 10 Real After-Tax Treasury Bill Rate, 1952-2005



Notice that this chart shows the same three economic climates we saw in Figure 7 from Part 1:

- 1952–67, when inflation was relatively steady and it cost to borrow money;
- 1969–81, when inflation skyrocketed and it paid to borrow money (but not to lend it); and
- 1982–present, when inflation was back under control and it again cost to borrow money.

In the 1970s, you and I could borrow money at 7½% on a mortgage. After taxes, it was costing us less than 5%, even though inflation was 10%, because our mothers and our grandmothers were getting 5¼% on their savings. The money you and I were making on our mortgages, Grandma was losing on her savings account.

After a decade of that, Grandma got tired of losing money, so three things happened:

- In order to stop inflation, we put a new man in the Fed named Paul Volcker.
- Partly to stop inflation, we put a new man in the White House named Ronald Reagan.
- All our mothers and grandmothers took their money out of passbook savings and put it into 13% money market funds and bankrupted the S&L industry.

"After all, in a Depression, you don't care about the return *on* your money. You care about the return *of* your money!"

I believe that as long as Grandma feared depression more than she feared inflation, she was willing to keep her money in a guaranteed passbook savings account, even though she was losing money doing it. After a decade of losing money, she came to fear inflation more than depression and changed where she kept her savings. The first time she moved her money was traumatic. Now, Grandma will go across the street for a nickel or a dime; that is a tenth of a percent. But it took a long time—and it took the fear of inflation becoming greater than the fear of depression—for her to do that. After all, in a depression you don't care about the return *on* your money, you care about the return *of* your money! The pain depicted on this chart in the 1970s finally drove Mom and Grandma to respond to inflation. But at the same time we responded to the fear of inflation and we licked it. Inflation went from 13% to 4% in three years. These two actions reversed the climate.

Investing Choice 2: Long-Term Debt

Long-term debt includes such things as Treasury bonds, corporate bonds, municipal bonds, and mortgage-backed securities. These investments are guaranteed by the borrower. The rates on long-term debt are driven by the market. We consider here Treasury bond rates because they are the benchmark for the rates of other long-term debt securities as well.

Figure 11 Nominal Long-Term Government Bond Rate, 1952-2005

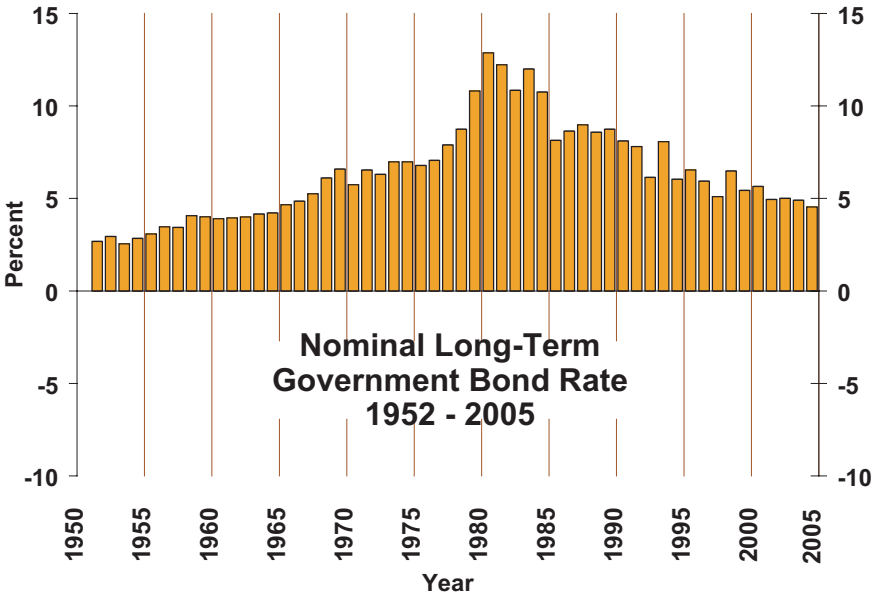
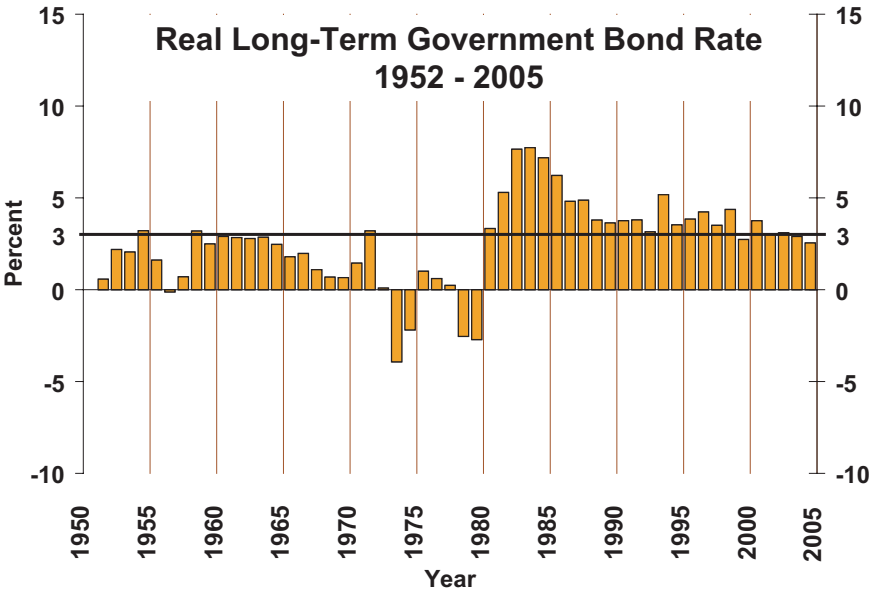


Figure 11 plots the nominal long-term Treasury bond rate for the last 53 years. It looks a whole lot like mortgages.

When you adjust for inflation, Treasury bonds look like Figure 12.

Figure 12 Real Long-Term Government Bond Rate 1952-2005



You'll notice on Figure 12 we've drawn a line at 3%. Historically, Treasury bonds have yielded 3% over inflation. When interest rates are 3% above inflation, bonds are fairly priced and you get the coupon. From 1974 to 1981, interest rates were unusually low relative to inflation because Grandma feared depression and was willing to lend her money cheaply for a "guarantee." From 1982 to 1989, interest rates were unusually high because my brother, the borrower, was willing to pay 14% on his mortgage. This meant that Mom, the lender, could get 11% on her money market fund. (The bank maintains a spread of about 3% regardless of rate.)

Figure 12 shows all you've had to know to make money, or avoid losing money, in bonds for the last 53 years.

In October 1993, based on this chart, we said, "Folks, the time to own bonds has just come to an end." Remember when Orange County went bankrupt in 1994? Interest rates jumped about 2%. At the end of 1994, we said that there was a 20% off-sale in the bond market and in the stock market. Today, interest rates on Treasury bonds are about where they should be, which for long-term bonds is 3% above inflation.

The period from 1965 to 1993 was dominated by a change in inflation and a lagging perception by bond owners. It probably won't happen again in our lifetime. After all, Mom will now move her money for a dime, and there is no way you are going to get people who now have 7% mortgages to refinance to 11% mortgages. In the 1970s, people had mortgages at 7% and went out and bought a bigger house with a higher mortgage rate because they assumed inflation would continue and that the value of the house would increase regardless of interest rate. Remember the phrase "Trade up on the equity"? It worked in the 1970s. People still believed it in the 1980s. But from 1990 to 1993, not only did people refinance their mortgages from 11% to 8% (driving Mom's CD from 8% to 5%), but a third of those refinancing went from a 30-year mortgage to a 15-year mortgage. That's the opposite of "Trade up on the equity." That's "Prepay the mortgage." They're now paying twice as much principal every month as they used to! My mental picture of this is Scrooge McDuck in his counting room—and his money's coming in at twice the rate that it

used to and it's piling up! We said in 1990–91 that within a year banks would be flush because they're getting all this money in. And since 1992–93, every month you get the chance to open more credit card accounts. Banks have been flush since 1993 because people are prepaying the mortgage. Changes in public opinion, or changes in public action, tend to happen in a recession. All through the 1980s while there was no recession, people were happy (or at least they were willing) to pay 11% on a mortgage. In 1990–91, we had a recession, and people took a hard look at their finances; that's when they refinanced their fixed-rate mortgages down from 11% to 8%. Because they are fixed-rate mortgages, they can refinance them down again (as they have done in 2002–5), but the bank can't refinance them back up.

"Changes in public opinion, or changes in public action, tend to happen in a recession."

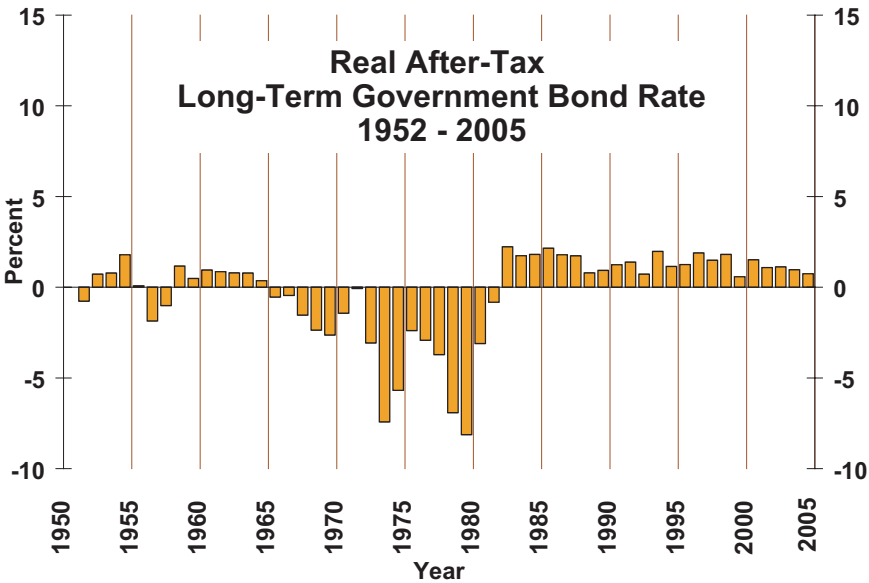
What we saw from 1990 to 1993 was a change in action by the American public—one-third of 60 million homeowners choosing to pay down the mortgage instead of trading up on the equity. That's important. That was a major change. It drove interest rates back to normal levels in 1993.

Inflation, and people's response to it, was the major driver of the stock and bond prices for the last 40 years. It's now over, but you've got to understand what happened in order to understand what's happening now.

The majority of long-term bonds are held by pension plans, which are tax-free. So the preceding discussion is based on pretax, long-term bond rates (Figure 12).

If you're a taxpayer, of course, Treasury bonds look like Figure 13.

Figure 13 Real Long-Term Government Bond Rate, 1952-2005



Investing Choice 3: Equities (Common Stock)

The third class of securities is equities (or common stock). In this case, instead of borrowing money, a company raises money by selling shares of stock in the company. The stockholder is then an owner of the company and shares in the successes of the company (through dividends and capital gains) and the failures of the company (through capital loss). There are no "guarantees." Stock prices are set by the market—what someone is willing to pay to own a piece of the company. Over the long term, the price will reflect the true value of the company, but over the short term, the perceived value of the company may not always reflect the company's true value.

"Corporate stocks provide higher returns than corporate bonds because the company's management works *for* the stockholder and *against* the bondholder."

Corporate stocks provide higher returns than corporate bonds because the company's management works *for* the stockholder and *against* the bondholder. No management will borrow money (i.e., issue bonds) unless it expects to profit from the investment of those funds in its business. Thus, the return on stockholder's equity must be higher than corporate interest rates. Otherwise, management will cease to borrow, driving interest rates down. Similarly, every corporate treasurer has the same incentive you and I have—to save money. They call their high-rate bonds and reissue low-rate bonds just as we refinance our high-rate mortgages when lower-rate mortgages become available.

In this section, we look at common stock performance over the last 50-plus years. We also look at several misconceptions about stocks. Then we move on to compare our three investment choices.

Figure 14 Dow Jones Industrial Average, 1952-2005

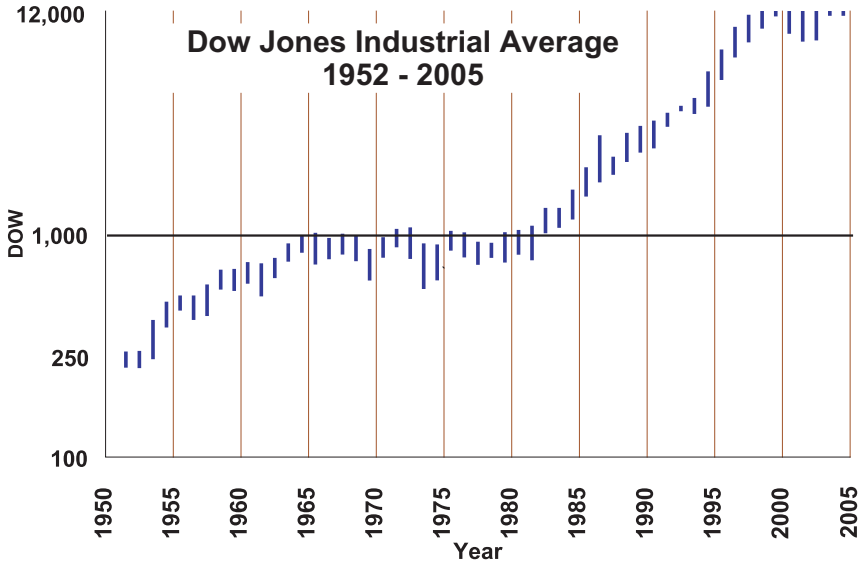
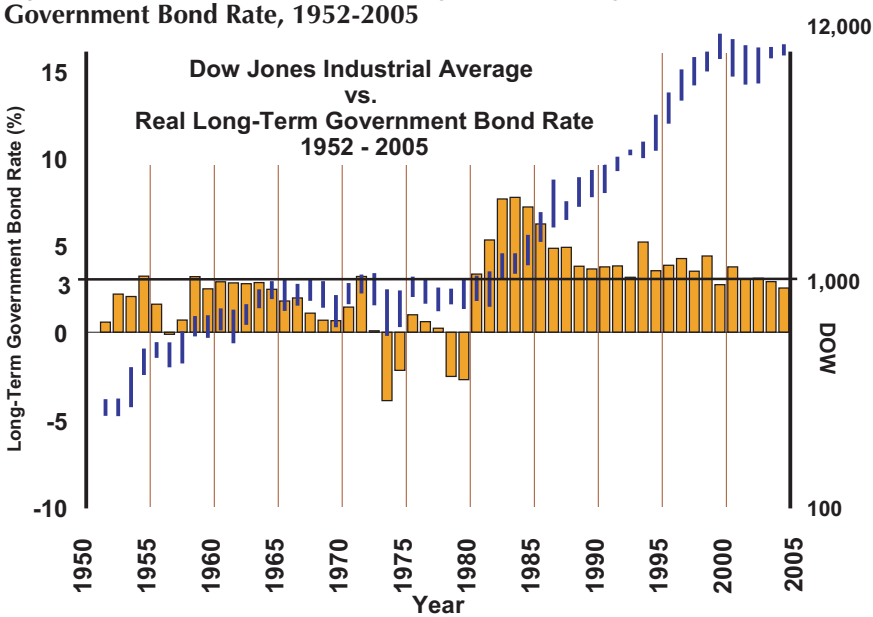


Figure 14 depicts the Dow Jones Industrial Average (DJIA) from 1952 to 2005. The year 1952 is particularly interesting to me because Dad bought our farm in 1951. From 1952 to 1965, he'd much rather have owned stocks because they quadrupled. From 1965 to 1982, you'd rather have owned farmland. Stock prices did nothing. You got the dividend, which was about 3%. From 1982 to today, you would rather own stocks; they are up about 10 times.

Figure 15 Dow Jones Industrial Average vs. Real Long-Term Government Bond Rate, 1952-2005



What's interesting is when you place the DJIA chart alongside the real, long-term government bond rate chart as we've done in Figure 15. We said in Part 1 that when the climate changes, it changes everything. Well, Figure 15 shows several climate changes:

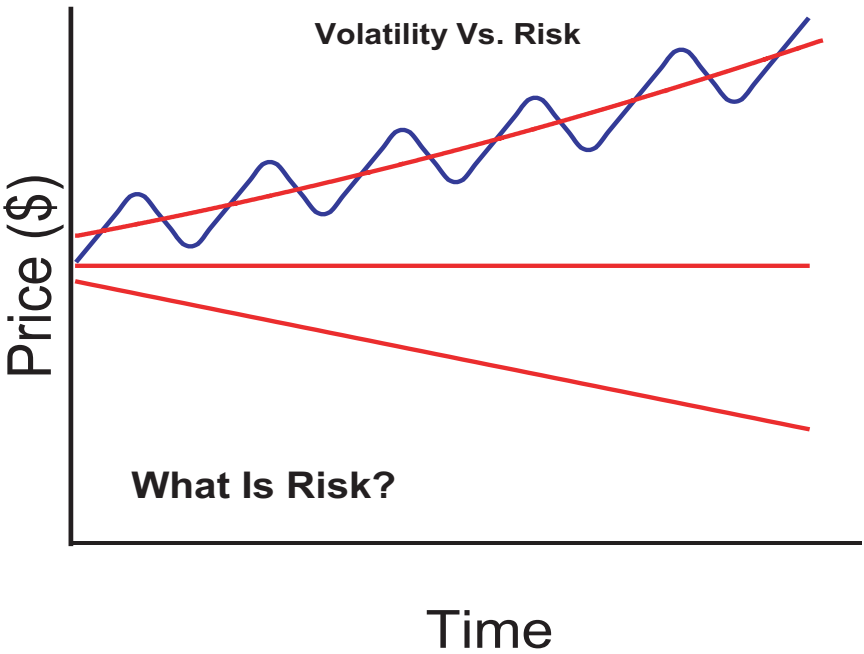
- From 1951 to 1965, you could make 3% on bonds and you could quadruple your money in stocks, so you wanted to own stocks.
- From 1965 to 1982, you didn't want to own stocks or bonds; you wanted to borrow money.
- From 1982 to 1993, you could make good money in bonds or stocks. In fact, stocks continued strong until 2000. When the climate changes, it changes everything.

When the value of the money changes, it changes everything valued in money.

"Aren't Stocks Risky?"

This is a common concern we hear about stocks. But to address this concern, we must ask a question of our own: what is your definition of risk? I suspect for most of you it's the possibility of losing money. My definition of risk is the *probability of losing purchasing power*. To me, inflation is a risk because I'm losing purchasing power.

Figure 16 Volatility Vs. Risk

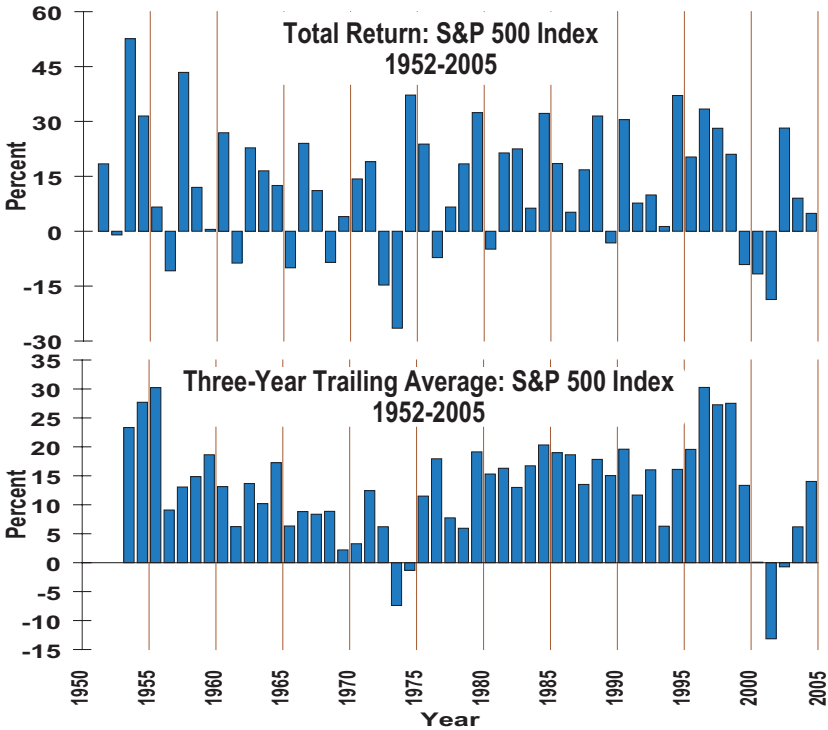


What's Wall Street's definition of risk? Wall Street's definition of risk is volatility. Wall Street tells you that the wavy blue line in Figure 16 is riskier than the top red line. I'll buy that. Wall Street also tells you that the wavy blue line is riskier than middle red line, and you might be able to squeeze that by me. Wall Street further claims that the blue line is riskier than that bottom red line, and I won't buy that at all.

What Wall Street *won't* tell you is that the bottom red line is available to you, the middle red line is available to you, but the top red line is not. The blue line is available, but the top red line isn't. So now which line do you want? Beware when you are told that stocks are risky. You need to know what definition is being used. Stocks can be volatile (like the blue line), but let's look at what happens to that volatility over time.

Volatility and Sampling Frequency

Figure 17 Yearly Total Return and Three-Year Trailing Average: S&P 500 Index, 1952-2005



What you see on the top plot of Figure 17 is the total return for the S&P 500 for each of the last 53 years. In those 53 years there have been 13 down years. Well, to an old farmer, the pattern of returns looks like spring, summer, fall, winter . . . spring, summer, fall, winter. . . . In fact, we used to invest on a four-year cycle. The economic cycle was roughly three to five years and the market ran on a four-year cycle whether the economy did or not. If you look at this plot as an old farmer, you conclude that maybe one year isn't the proper period of time to measure what's going on. So we took the same data, and did a three-year trailing average, which is the lower plot. A lot of the volatility goes away. The only down periods are around 1975 and 2002.

In the investment industry, when people talk about volatility of a stock, they talk about its "Beta." But what is Beta? In the early 1970s when I worked for an insurance company, people from a major brokerage firm came to see us. They had bought a computer that was programmed for linear regressions. So they plugged in A + Bx (actually, they got sexy and said Alpha + Beta[x], which is where "Beta" came from), and they looked at prices relative to the S&P 500 or a similar index. I asked them for their formula, they gave it to me, and I sat down with five years of history for a mutual fund that we ran. First I ran monthly data through their formula, and then I used quarterly data. So, I'm using the same set of data—just two different sampling frequencies. I got two different Betas. I called up the brokerage people and said, "This is what I did. I got two different Betas. Does that make sense?" They said, "Yes, that's what will happen." I said, "But I've got two different Betas. Which one should I use?" They said, "We like the higher number because it's more dramatic." I've been skeptical of Beta numbers ever since.

The bottom line is that if you price your portfolio every day, you are going to get huge volatility. If you price it once a week, you'll get less. If you price it once a quarter, you'll get less. If you price it once a year, you'll get something like the top plot on Figure 17. If you price it once every three years, you'll get the bottom plot on Figure 17, and much of the volatility goes away. So the easiest way to lower the volatility of your portfolio is *don't price it so often*.

Let's look at volatility one more way. How often do you price your house, every 10 years or so? The implicit assumption is that during those 10 years, the price went in a straight line. But really, the price of your house jumps around a lot more than the price of stocks. Anybody try to sell a house in October 2001? There were no bids. Nobody was interested. In stocks there is always somebody like me with a lowball bid. If you've got your house up for sale and there are no bids, does that mean it's worthless? Or does it mean that *today* you got no bid? People are willing to wait six or nine months to get a good price for their house, but if their stocks drop they panic as if the price meant something. All it means is that somebody is giving you a lowball bid. The point is that risk is a matter of definition. Volatility is just one definition, and it changes with the sampling frequency.

Volatility and the Media

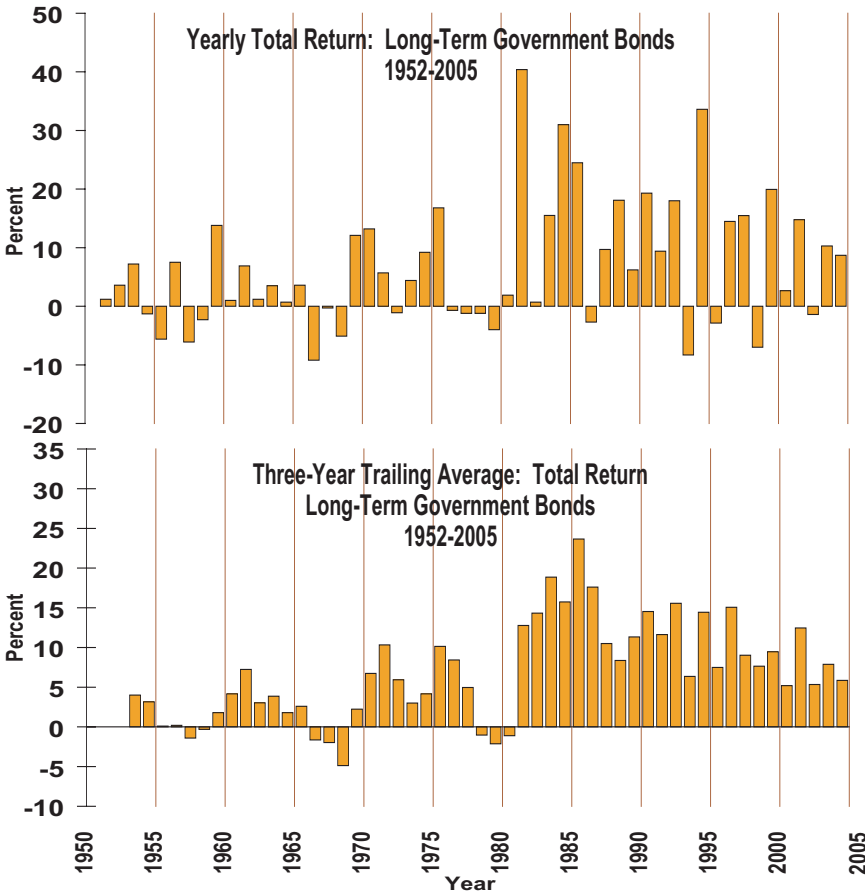
We'll have a lot of volatility in stocks as long as people watch the market on a daily basis. I've been on the TV shows. How much time do we spend talking about Treasury bills? Thirty seconds a day? What can you say about Treasury bills? "The yield is 1%." That's all you can say. What can you say about CDs? "They're guaranteed. The yield is 1%." That's all you can say. What can you say about bonds? "The yield is 4%. We think rates are going up," or "We think rates are going down." We can talk about that for two or three minutes. Now we've got eight hours to kill. What can you say about stocks? You can talk endlessly about stocks. So they do—and that adds to volatility. The reason that people talk about stocks is that you can make money in stocks! The volatility is greater because the returns are greater, and it gives us something to talk about. But you can only talk about it prospectively.

Every year there are two weeks before the Super Bowl when there's all kind of speculation about who's going to win and what the point spread will be. Five minutes after the game is over, does anybody talk about the Super Bowl? No. Now you know! You can't talk about it anymore. The reason stocks are so volatile is that we talk about them so much, and we have so many people who have nothing to do but talk about them. I've been on the shows. You've got to be entertaining. They are in the entertainment business, and they will tell you that. During a commercial break I once commented that we put out a quarterly newsletter. The reason that I write a newsletter once a quarter is that if I can say something useful four times a year, I'm doing pretty well. Half of my newsletters say, basically, "See last quarter." I mentioned that, and the host said, "Well, we say something useful about four times a year too, but, of course, we're on the air every day." They are in the *entertainment business.* We call that "The Game of the Stock Market."

Risk as Frequency of "Down Years"

So . . . are stocks risky? The top plot of Figure 18 shows the yearly total return for long-term government bonds from 1952 to 2005. This is nominal, pretax and preinflation. There have been seventeen down years on bonds. The top plot in Figure 17 shows there have been thirteen down years in stocks over the same period of time. So, if your definition of risk is the frequency of "down years," then bonds are riskier than stocks.

Figure 18 Yearly Total Return and Three-Year Trailing Average: Long-Term Government Bonds, 1952-2005



I'm not sure one year is the proper period of time, so we did a three-year trailing average for the bottom plots on Figures 17 and 18. Bonds change to eight down years, stocks to four down years. You still have more down periods in bonds than in stocks. If your definition of risk is the frequency of down years, then bonds are riskier than stocks.

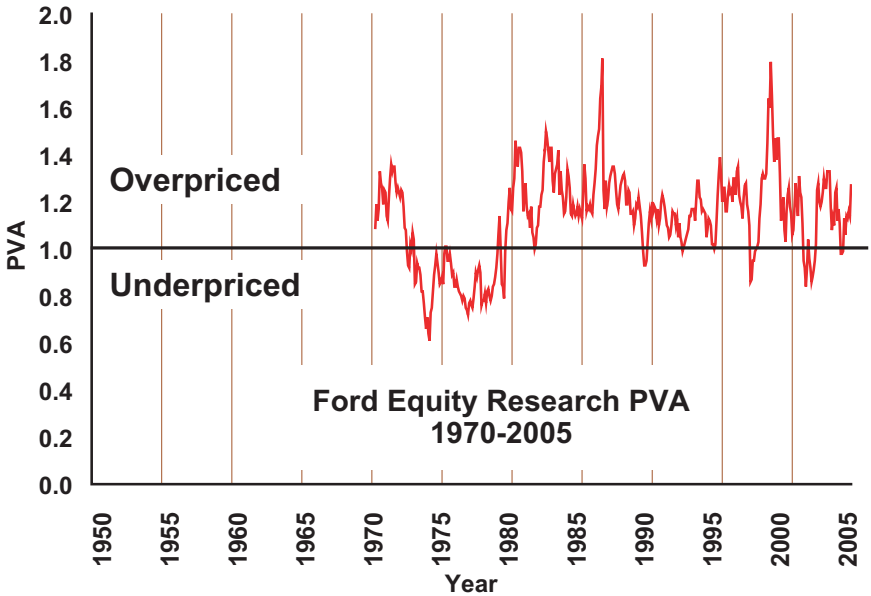
When it comes to risk, make sure that the definition that people are using makes sense to you. Wall Street defines risk as volatility. If you think risk is something else (like the frequency of down years or the loss of purchasing power), then stocks are not so "risky." They are just more volatile in the short term than other investing vehicles.

"Aren't Stocks Overpriced?"

This is another popular concern of investors. But, again, we need to look at how Wall Street determines what is "overpriced." Nearly anybody who has done rigorous work over any period of time assesses the values of common stocks based on current interest rates. They use a dividend discount model or something similar to it.

One outfit that has been doing such research for over 30 years is Ford Equity Research. They started with 2,000 stocks, and today it's over 4,000, so their research is statistically significant. Every month they calculate the value of over 4,000 stocks, compare them to current long-term interest rates, and determine a price-to-value ratio for each of those stocks. Then they average it over the 4,000 stocks. The resulting price-to-value ratio (PVA) is pictured in Figure 19.

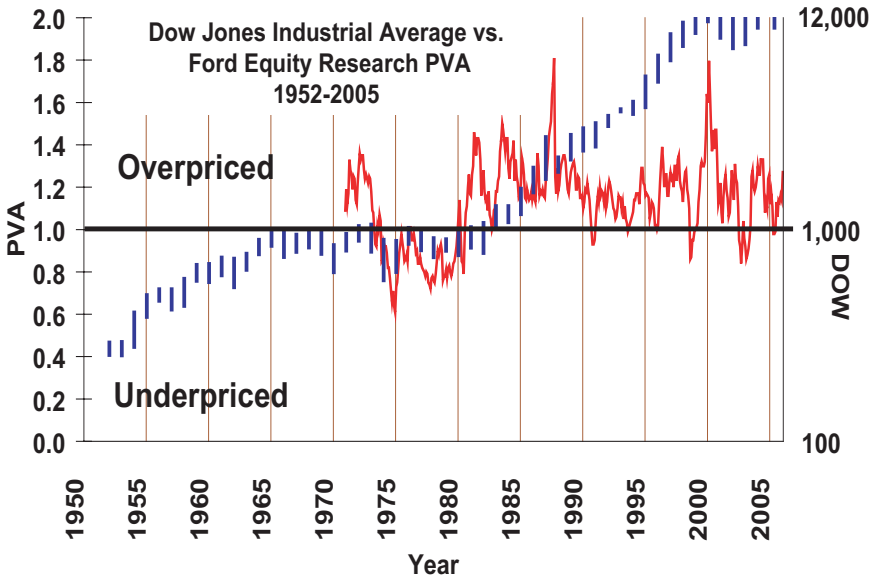
Figure 19 Ford Equity Research PVA, 1970-2005



When the PVA is greater than one, they say the stocks are overpriced. When the PVA is under one, they say the stocks are underpriced.

The only problem is that in 1971–72, when they said stocks were overpriced, stocks went up (see Figure 20). During the period of 1972–82, when they said stocks were underpriced, they did nothing. Since 1982, except for a little bit in the Gulf War and a little bit when Long-Term Capital hit the fan, nearly all the time they said that stocks were overpriced—and stocks went up by a factor of 10! In my opinion, they've been dead wrong for nearly twenty years and haven't bothered to change the formula.

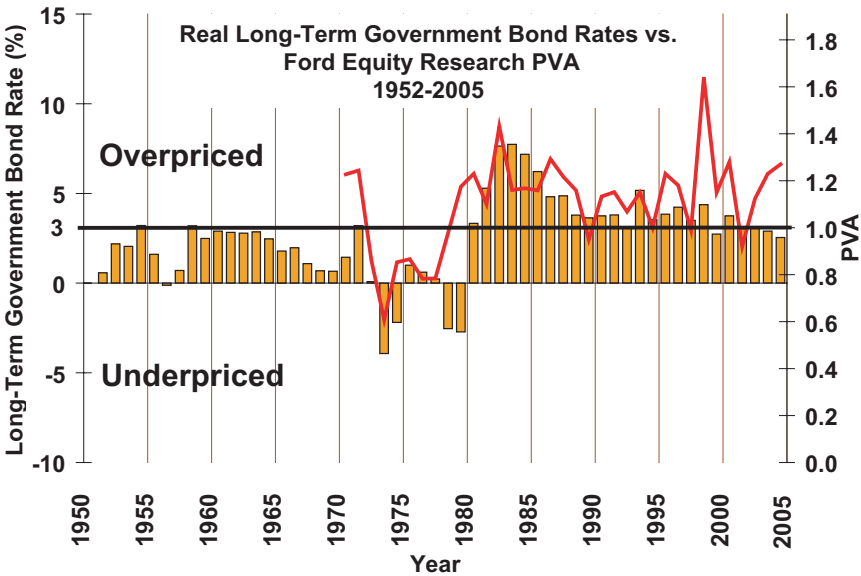
Figure 20 Dow Jones Industrial Average vs. Ford Equity Research PVA, 1952-2005



Remember, they're saying that stocks are underpriced or overpriced *based on current interest rates* (i.e., relative to bonds).

So let's look at the PVA and interest rates (Figure 21). From 1972 to 1982 when interest rates were unusually low, they said that stocks were underpriced— relative to bonds. From 1982 to 1990, when interest rates were unusually high, they said that stocks were overpriced—relative to bonds. Their assumption is that bonds are always fairly priced—that there's no hope nor fear in the bond market . . . as if my father didn't fear a depression, nor my brother assume inflation. As we've seen, that's nonsense.

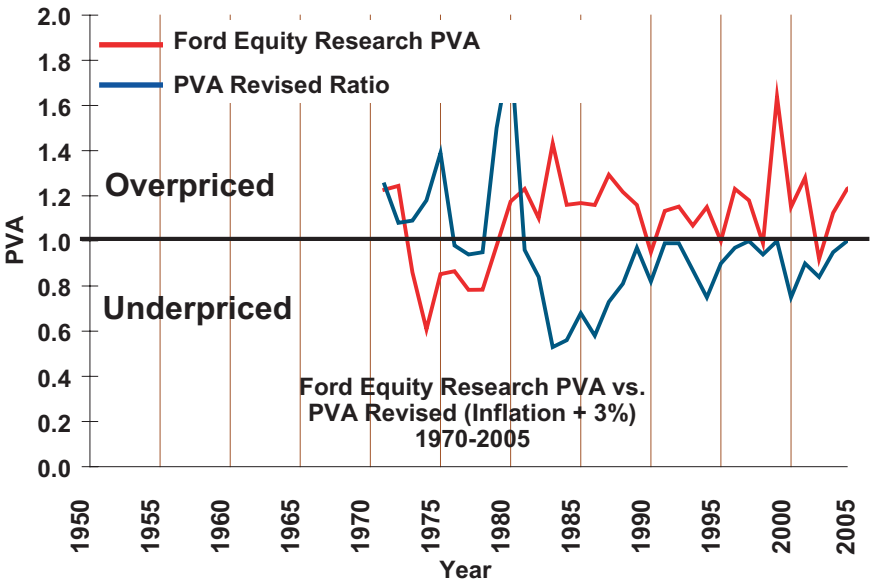
Figure 21 Real Long-Term Government Bond Rates vs. Ford Equity Research PVA, 1952-2005



We asked them to make one change in their calculations. Instead of using a current interest rate, we asked them to use inflation plus 3% as their discount rate. (In Figure 21, this would be depicted as using the horizontal line at 3% "real" interest rates instead of the actual rate each year as depicted in the bar chart.)

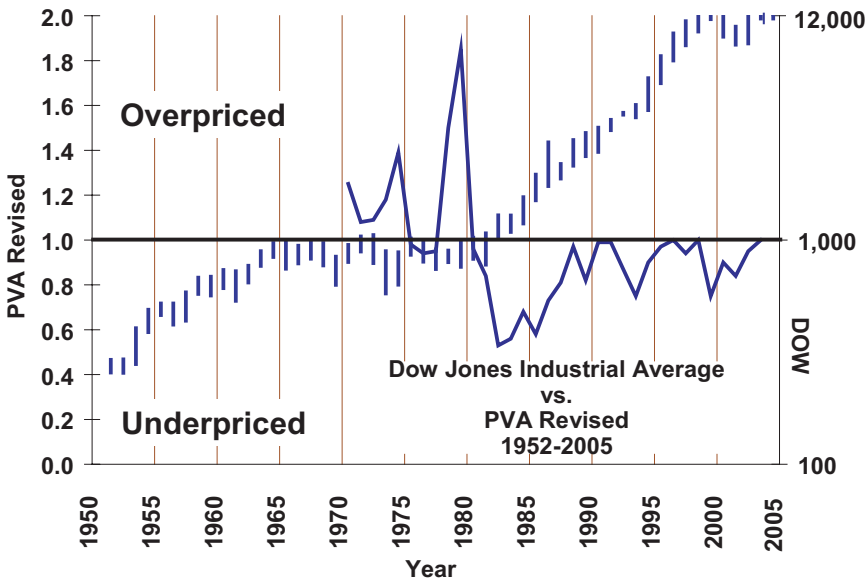
When they did that, they got the blue line in Figure 22. It reversed their conclusions! In 1972–82, when they had said stocks were underpriced, the blue line says they were overpriced. In the early 1980s, when they had said that stocks were 20%–30% overpriced, the blue line says they were 50% underpriced.

Figure 22 Ford Equity Research PVA vs. PVA Revised (Inflation +3%), 1970-2005



If we compare the revised PVA to the DJIA to see what stocks actually did (Figure 23), we see that using inflation plus 3% is a much more useful tool when deciding when stocks are overpriced or underpriced.

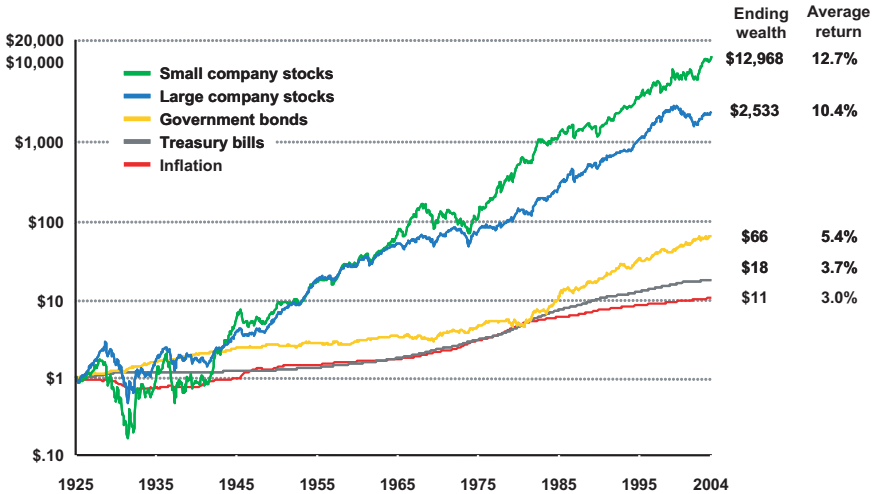
Figure 23 Dow Jones Industrial Average vs. PVA Revised, 1952-2005



Remember, whenever people say stocks are underpriced or overpriced, they need to finish the sentence. They're really saying stocks are over or underpriced relative to bonds. But in stocks, just as in bonds, you have to account for the value of money. Everything measured in dollars is measured by the inflation yardstick (see Part 1). You have to take inflation into account when evaluating both stocks and bonds.

One more point: the PVA is an assessment of the average stock. When stocks, on average, are fairly priced, there can be a huge disparity in individual stocks between those that are overpriced and underpriced. This is a stockpicker's dream. This is where the good stockpicker can make good money.

Figure 24 Ibbotson Associates Stocks, Bonds, Bills and Inflation
Year-end 1925–2004



Hypothetical value of $1 invested at year-end 1925. Assumes reinvestment of income and no transaction costs or taxes.

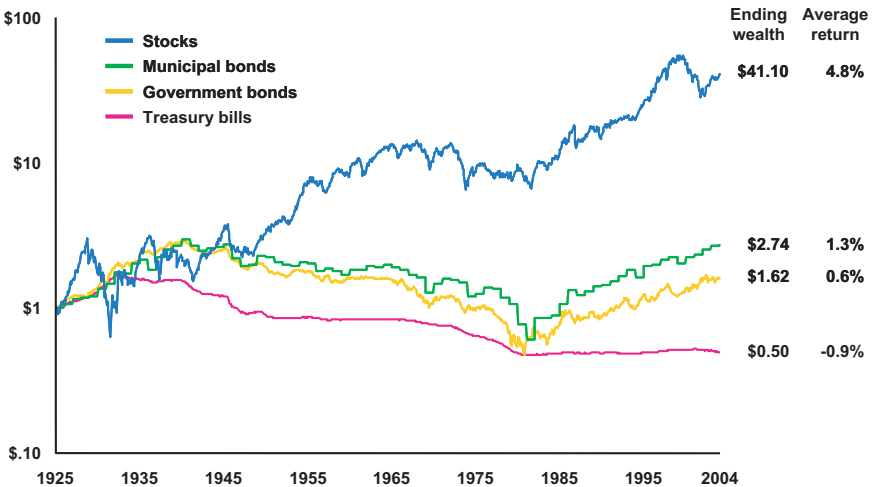
Source: *Ibbotson Presentation Materials*, ©2004 Ibbotson Associates, Inc.

Making Sense of the Choices

Figure 24 lets us compare stocks, bonds, bills, and inflation since 1925. Since 1925 we've had several wars, we've had a depression, we've had inflation—we've had most of the troubles that hit mankind. This chart says that inflation averaged 3%. Today (2006), we are at 2%. It says that Treasury bills have averaged 3.7% for a "real" 0.7%. Government bonds averaged about 5.4%, for a "real" 2.4%. We're back to that. Large-company stocks returned 10.4%, and small-company stocks did a little better. It's a beautiful chart, right? But it's totally useless! You can't spend that money—it's pretax and preinflation. A couple of years ago, they finally started printing a useful chart.

Figure 25 is the same data, but adjusted for taxes and inflation. Does this chart look a little different? This chart shows what has happened to your investment dollar since 1925.

Figure 25 Ibbotson Associates Stocks, Bonds, and Bills after Taxes and Inflation Year-end 1925–2004



Hypothetical value of $1 invested at year-end 1925, with taxes paid monthly. No capital gains taxes are assumed for municipal bonds. Assumes reinvestment of income and no transaction costs.

Source: *Ibbotson Presentation Materials*, ©2004 Ibbotson Associates, Inc.

So let's start with Treasury bills. You can't lose money in Treasury bills, right? They are perfectly safe, guaranteed by the federal government. But if in 1925 you put your money in T-Bills, paid your taxes, and never spent a dime, by 2005 the purchasing power of your dollar went to 50 cents—*guaranteed.*

If you owned government bonds, paid your taxes, and never spent a dime—never spent any of the "income"—your dollar went to $1.62. It did 0.6% per year. If you owned municipal bonds, it did just a shade better than that.

If you owned stocks, your dollar went to $41.10—which is a 4.8% annual rate.

This chart says to me that if it's guaranteed, most of the time, it's guaranteed to lose you money. There have been two periods of time during this 80-year period when you could make money in bonds:

One was in the depression. If you think that we're in a depression, don't own anything but Treasury bonds.

The other period of time was from 1982 to 2002, when interest rates went from 13% to 5% and you could make money on bonds. They are now at 5% and they might go to 4½%. The game in bonds is pretty much over.

Stocks have been kind of choppy, but over the last 80 years they have averaged 4.8%. So, we need to look at the economic climate to make sense of the choices. In a depression, bonds look good. But I have concluded that we're not in a depression. I hope that the period from 1940 to 1945, WWII, was unusual. If you are experiencing the kind of inflation and low interest rates that we saw in the 1970s, you want to borrow money. But at this point we fear inflation and would risk recession before we would allow that sort of inflation again. If you had to draw a parallel to today—a period of time when inflation was relatively low and fairly stable, interest rates were fair and fairly stable, and stock prices were fair—take a look at the early 1960s. Back in the '60s, you had your choice of making money in stocks, in a jagged fashion, or losing money—consistently—in bonds.

What's Available Today?

The point I want to make is that the real choices that are available to you today (2006) are depicted in Figure 26.

Figure 26 Available Annual Returns (%)

	Nominal	After-Tax	Real After-Tax
Short-Term Debt	4.5	2.9	0.9
Long-Term Debt	5	3.2	1.2
Equity	8	6.8	4.8

On short-term debt you can get something like 4.5% per year. If you are in the 35% tax bracket you get to keep 65%, so it's 2.9%. If inflation is 2%, then you net 0.9%. If you buy Treasury bills today and you pay your taxes, you will make a bit less than 1%.

With long-term debt, rates are at about 5%. If you pay taxes at 35%, you get to keep 65% of it; that takes you to 3.2%, minus 2% for inflation, and you get to keep 1.2%. That's a little above the historic rate. If you buy municipal bonds, which aren't on here, the nominal rate is 4%, the after-tax rate is 4%, so for the real rate, you take 2% off of that and you get 2%. For most taxpayers, those in the 35% tax bracket, municipal bonds (munis) look a little better than corporates, and corporates look better than cash.

Stocks are priced to do about 8%. If you choose equity investments that provide returns that are taxed at 15%, of the 8%, you can keep 6.8%. Subtract 2% for inflation, and you get to keep 4.8%.

Your choices today are short-term debt, long-term debt, and equities. These numbers are pretty close to what they have averaged over the past 80 years. The difference, of course, is that equity gains come in spurts. We conclude that there is some value in bonds, not a lot, but they are better than cash. For most people munis are a little better than corporates. But we like the returns of 4.8% from stocks a whole lot better than 1.2% on bonds, or 0.9% on "cash."

The Basics of Investing

What works? What doesn't? and Why?

What Have We Learned?

*I*n Part 1 we learned that to understand anything measured in money, you have to understand inflation, because inflation changes the value of your money yardstick. We learned that for the last 40 years, inflation has been the primary driver of major market changes. So to understand today's investment markets, we need to understand today's economic climate. To understand today's climate, we need to understand the climate changes of the last 50 years. If you can understand the economic climate, the investment markets make a lot more sense.

In Part 2 we learned that every investment is a transaction between two parties. There are three types of securities: short-term debt, long-term debt, and equities (stocks). Over the last 50 years, changes in economic climate have made different choices between these three more or less profitable. We learned that though short- and long-term debt are often marketed as "safe," when you take inflation and taxes into account, there have been many times in the last 50 years where you have lost money in bonds and bills.

We learned that stocks, on average, have shown better gains over the last 50 years than bills and bonds. We have learned that stock "risk" is a matter of definition and that stock volatility is a function of sampling frequency (how often you price your stocks). We have learned that many of the models that evaluate stock prices do not explicitly take inflation into account. They assume that interest rates (and therefore bond prices) accurately reflect inflation. In short, they assume that interest rates and bond prices are always fair, which was demonstrably not true in the 1970s and the 1980s.

So when you're told that something is risky, volatile, or overpriced, ask questions. The media are in the entertainment business. You want to be in the investment business—the business of growing your wealth.

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