Thinking About What Lies Ahead For Investors

Remarks by

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at the

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I'm honored by your invitation to return to our Nation's Capital to provide some perspectives on the current investment environment, and to offer some reflections on the challenges that lay ahead for investment professionals, and of course for our investors as well. I'll begin by discussing one of the great basics of investing—the simple sources of stock returns—so often overlooked by the short-term horizon s that drive the strategies of so many investors (or is it "speculators") today. Then I'll present some reasonable expectations for future returns, and give you my blunt appraisal of the typical 8 percent return assumption that most pension funds are relying on to meet future benefit obligations. I'll close with some reflections on the many difficult challenges that investors face today.

I. The Basics of Investing

Let's begin with some fundamentals. Stock prices, in fact, are derivatives. True! Their value is derived from the present value of a corporation's future cash flows, in which stocks represent an ownership share. In other words, stocks represent an investment in the intrinsic value of a firm. Sellers decide, in effect, that they will capitalize on the value of those future flows, and buyers use their capital to acquire those flows. In the long run, it is these economics that drive stock price returns. Alas, in the short-run, returns are driven by emotions. As the great Benjamin Graham put it: "In the short run, the

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Note: The opinions expressed in these remarks do not necessarily represent the views of Vanguard's present management.

stock market is a *voting* machine. In the long-run, it is a *weighing* machine." (This insight bears endless repeating!) I add my own phrase to Ben Graham's: "The stock market is a giant distraction from the business of investing." Of course it is!

My profound concerns about the dominance of speculation over investment are expressed in my new book (to be published this August), *The Clash of the Cultures*, the story of how riskier short-term speculation has come to crowd out prudent long-term investment, and the negative consequences of this trend for investors, for our financial system, and for our society as a whole. Let me describe the vast areas on which *The Clash of the Cultures* has important ramifications and express some of my major concerns to you.

1. **In our financial markets**, annual trading in stocks—necessarily creating, by reason of the transaction costs involved, negative value for market participants—averaged some $33 trillion. But capital formation—that is, directing fresh investment capital to its highest, best and most profitable uses—new businesses, new technology, medical breakthroughs, modern plant and equipment for existing businesses—once considered the central role of finance, averaged some $250 billion. Put another way, speculation represented some 99.2 percent of the activities of our market system, with capital formation accounting for 0.8 percent.
2. **In the new ownership structure of our corporations and institutional money managers**, the "Double-Agency Society," giant corporate manager/agents interface with our giant investment manager/agents in a symbiotic "Happy Conspiracy," focusing on the momentary fluctuations of evanescent stock prices rather than the building of durable, long-term intrinsic corporate value.
3. **In corporate governance**, the failure of our institutional investors—who now control, not 8 percent of stocks as in 1950, but a controlling 70 percent—to step up to the plate and exercise the rights and responsibilities of corporate governance in the interests of the fund shareholders and plan beneficiaries whom they are duty-bound to serve.
4. **In mutual funds**, the cottage industry that I joined in 1951—a profession focused on stewardship—has become a giant business focused on salesmanship, and where old notions of fiduciary duty have been subverted both by short-term investment focus and by control of money managers by financial conglomerates (41 of the 50 largest fund complexes are now publicly-held or under conglomerate domination.)
5. **In index funds, the traditional index funds (TIF, events have required me to coin a new acronym)**—which I created in 1975 as the paradigm of long-term investment—are being

overwhelmed by the "new model" of the exchange traded fund (ETF), which now hold assets that are larger than the TIFs themselves. So often used for speculative purposes, ETFs now experience an annual share turnover averaging about 500 percent per year, to the tune of $18 *trillion* in trading volume in 2011 alone. The original SPDR (S&P 500) ETF is, day after day, the most widely-traded stock in the world.

6. **In our failing national retirement system**—ranging from Social Security to defined benefit plans (DB) to loosely controlled defined contribution (DC) plans—most offer little likelihood of fulfilling their investors' hopes for retirement. In each of these realms, speculation—on future returns, on fund choices, or on other decisions—calls the tune.

II. The Wisdom of Lord Keynes

Way back in 1925, John Maynard Keynes provided a wonderful insight on the role of speculation in shaping stock returns. Observing the predilection of investors to implicitly assume that the future will resemble the past, Keynes warned: "It is dangerous to apply to the future inductive arguments based on past experience unless we can distinguish the broad reasons for what it [the past] was." A decade later, in 1936, in his classic *The General Theory of Employment, Interest, and Money*, Keynes focused on the two broad reasons that explain the returns on stocks. The first was what he called *enterprise*—"forecasting the prospective yield of an asset over its entire life."[1] The second was *speculation*—"forecasting the psychology of the market." Together, it is these two factors that explain "The State of Long-Term Expectation" for stocks, the title of Chapter 12 of *The General Theory*.

From his vantage point in London, Keynes observed that "in one of the greatest investment markets in the world, namely, New York, the influence of speculation is enormous . . . It is rare for an American to 'invest for income,' and he will not readily purchase an investment except in the hope of capital appreciation. This is only another way of saying that he is attaching his hopes to a favorable change in the conventional basis of valuation, i.e., that he is a speculator." Today, 75 years after Keynes wrote those words, the same counterproductive situation prevails, only far more powerfully.

Speculation Crowds out Investment

[1] John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (New York: Macmillan, 1936)

Lord Keynes's confidence that speculation would crowd out enterprise came at a time when individual investors dominated stock ownership. Since "the crowd" was largely ignorant of business operations and valuations, Keynes argued, excessive—even absurd—short-term market fluctuations would occur, reflecting events of an ephemeral and insignificant character. Short-term fluctuations in the earnings of existing investments, he correctly argued, would lead to unreasoning waves of optimistic and pessimistic sentiment.

Competition between expert professionals, possessing judgment and knowledge beyond that of the average private investor, Keynes added, should correct the vagaries caused by ignorant individuals. But he expected such competition to do the reverse. The energies and skill of the professional investor would come to be largely concerned, not with making superior long-term forecasts of the probable yield of an investment over its whole life, but with foreseeing changes in the conventional basis of valuation a short time ahead of the general public. Keynes described the market as "a battle of wits to anticipate the basis of conventional valuation a few months hence rather than the prospective yield of an investment over a long term of years."

My first encounter with that priceless wisdom took place in the course of my research for my 1951 Princeton senior thesis on the mutual fund industry. I cited Keynes's conclusions, and then had the temerity to disagree with the great man. Rather than professional investors succumbing to the speculative psychology of ignorant market participants, I argued, these pros would focus on enterprise. In what I predicted—accurately, as it turned out—would become a far larger mutual fund industry, our portfolio managers would "supply the market with a demand for securities that is *steady, sophisticated, enlightened, and analytic* [italics added], a demand that is based essentially on the [intrinsic] performance of the corporation rather than the public appraisal reflected in the price of its shares." Alas, the sophisticated and analytic focus on enterprise that I had predicted from the industry's expert professional managers has failed abjectly to materialize. Rather, the emphasis on speculation by mutual funds has increased many fold. He was right. I was wrong. Ah, callow youth! Call the score, Keynes 1, Bogle 0.

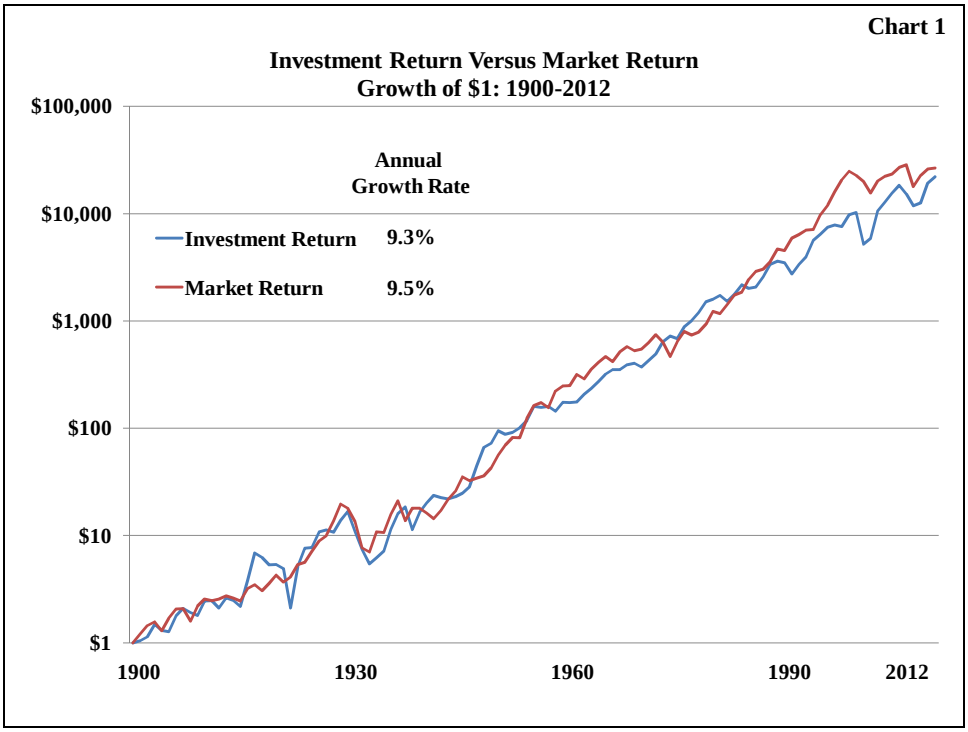
Keynes was well aware of the fallibility of forecasting stock returns, noting that "it would be foolish in forming our expectations to attach great weight to matters which are very uncertain." He added that "by very uncertain I do not mean the same thing as 'improbable.'" While Keynes made no attempt to

quantify the relationship between enterprise and speculation in shaping stock market returns, however, it occurred to me, decades later, to do exactly that by putting numbers on Keynes's distinction.

By the late 1980s, based on my own first-hand experience and my research on the financial markets, I concluded that, consistent with what Keynes had written, the two essential sources of equity returns were: (1) *investment* (Keynes' "enterprise"), and (2) *speculation* (the word Keynes used). I defined *Investment Return* as the initial dividend yield on stocks plus their subsequent annual rate of earnings growth over a decade. I defined *Speculative Return* as the change in the price investors are willing to pay for each dollar of earnings (essentially, the rate of return on stocks that is generated by changes in the valuation that investors place on future corporate earnings).

Simply adding speculative return to investment return, I concluded, produces the *Total Return* generated by the stock market. For example, if stocks begin a decade with a dividend yield of 4 percent and generate subsequent earnings growth of 5 percent, their *investment* return would be 9 percent. If the price-earnings ratio rises from 15 times to 20 times, that 33 percent increase, spread over a decade, would translate into an additional *speculative* return of about 3 percent annually. Simply adding the two returns together, the total return on stocks would come to 12 percent. It's not very complicated!

This remarkably simple numeric approach of separating enterprise and speculation (i.e., investment return and speculative return) has been borne out in practice. Indeed, I have the temerity (again!) to suggest that Lord Keynes would respect this mathematical extension of his concept. Over the past century-plus, for example, we can account, with remarkable precision, for the total returns actually earned by U.S. stocks.

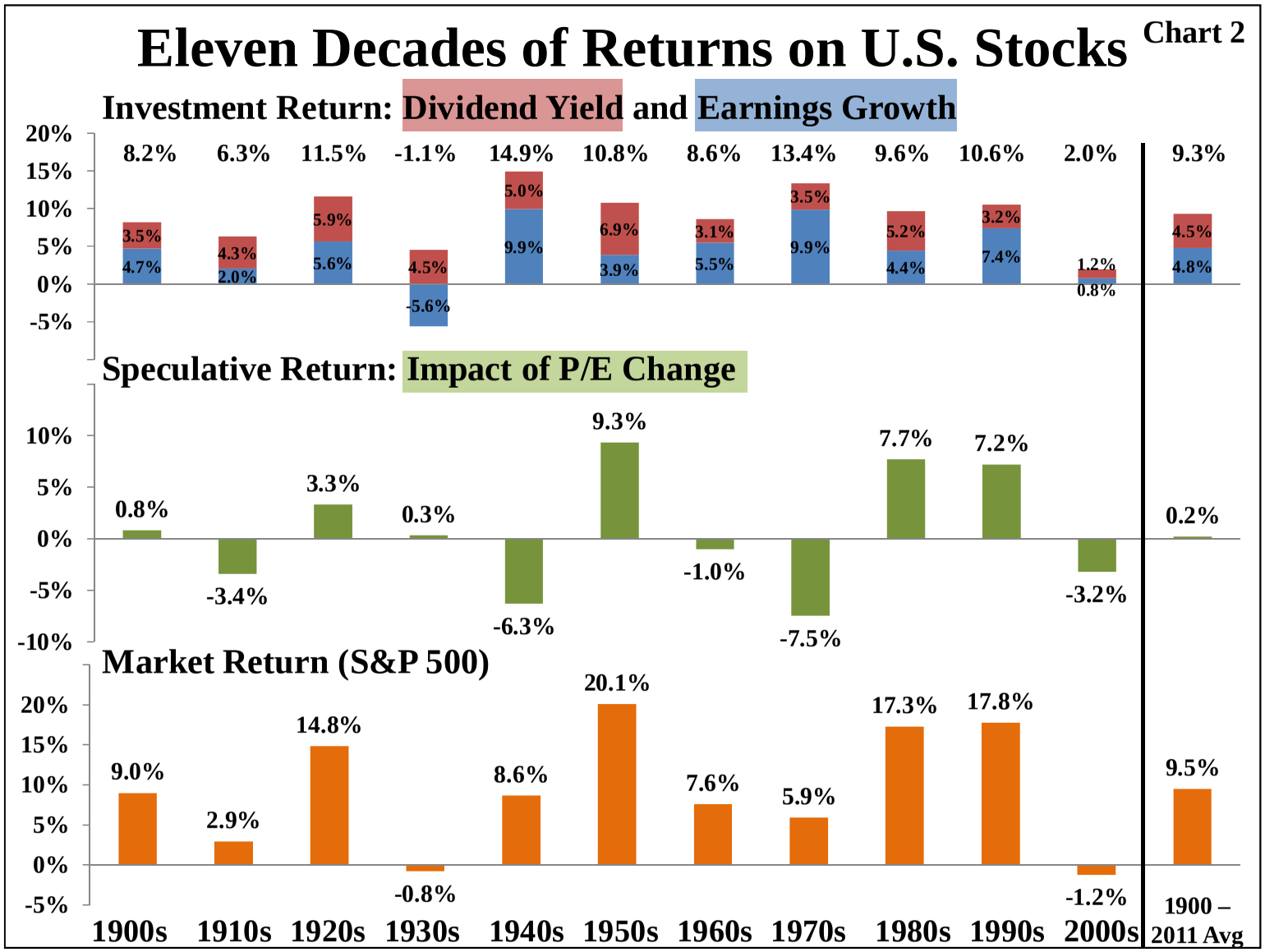


Note in **Chart 1** that as cumulative investment return (**blue** line) has marched ever onward, ever upward, it is closely shadowed by the cumulative return produced in the stock market itself (**red** line). When the market return gets ahead of investment return, either it comes back down or the investment return comes up. When the market return falls behind the investment return, it catches up, a reasonably predictable pattern that reflects the omnipresent rule of the stock market, *reversion to the mean* (RTM). From 1900 to date, the nominal annual returns were: investment return, 9.3 percent; market return, 9.5 percent.

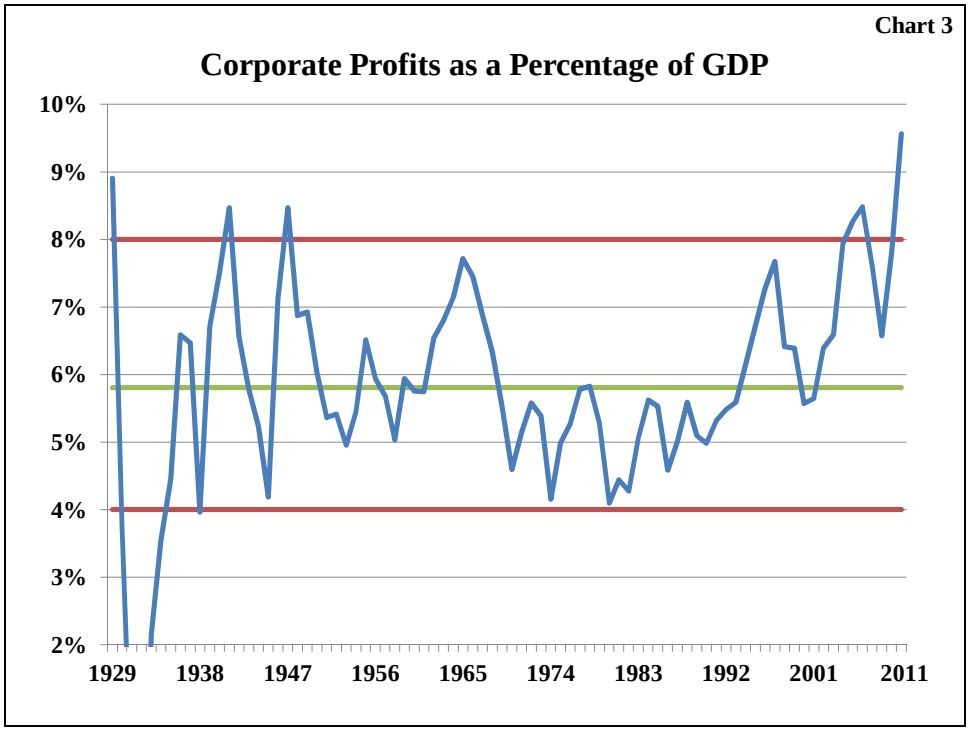
Over shorter-term periods, however, the differences can be—and often are—substantial. For example, it's illuminating to track the sources of these differences over the past decades since the 1900s.

Eleven Decades of Returns on U.S. Stocks

Chart 2



The *investment return* on stocks proves to be remarkably susceptible to reasonable expectations. The initial *dividend yield* **(red)—**a crucial but generally underrated factor in shaping stock returns—is a known factor, and the steady contribution of dividend yields to investment return during each decade has always been a positive, only once—in the decade of the 2000s—outside the range of 3 percent to 7 percent. The secular rate of earnings growth, **(blue)** on the other hand, while hardly certain, is relatively stable. There were few surprises in long-term investment returns, and even the sharp earnings drop in the Great Depression was within the 95 percent probability range.



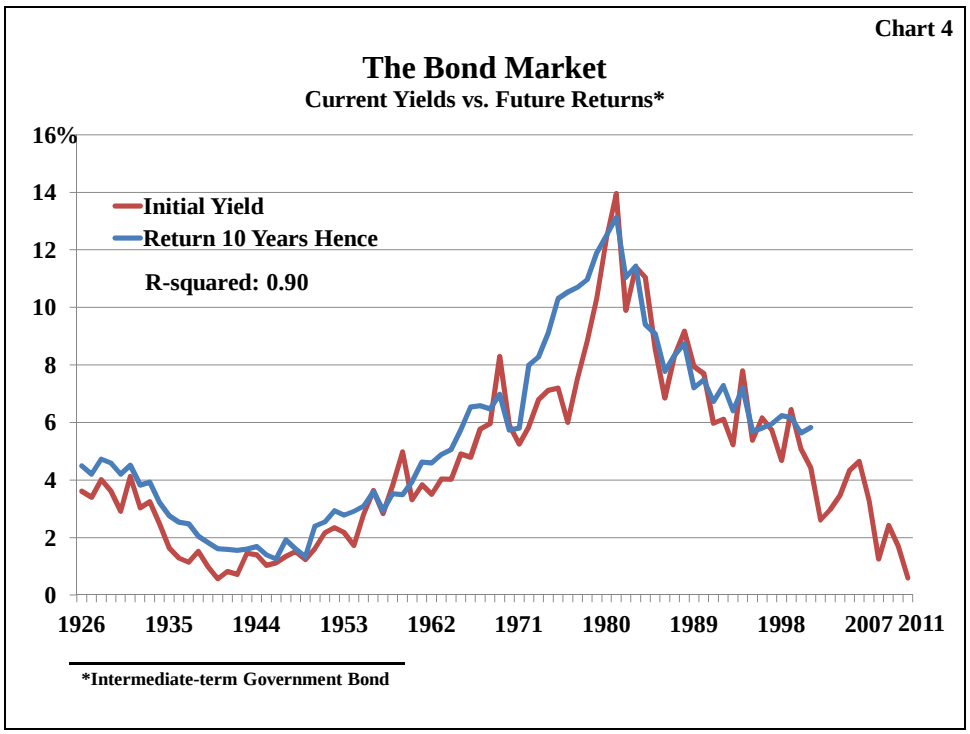
Note that, with the exception of the depression-ridden 1930s, the contribution of earnings growth was positive in every decade, usually running between 4 percent and 7 percent per year. (During the past decade however, thanks to the near-collapse of our financial system, earnings growth was only barely positive.) Only twice (in the 1930s and in the 2000s to date) were total investment returns (top line) less than 6 percent annually, and only twice more than 12 percent. But if we recognize that corporate earnings have, with remarkable consistency, grown at about the rate of the U.S. gross domestic product, this relative consistency is hardly surprising **(Chart 3).** On average, after-tax corporate profits have represented about 6 percent of GDP, and have but rarely moved outside of the range of 4 to 8 percent. (Is last year's 9 ½ percent level—an all time high—a warning sign? We shall see. Non-U.S. profits? A weak dollar? Low interest costs? Accounting chicanery?)

Speculative return is, well, speculative (shown in **green** in **Chart 2**). It has alternated from positive to negative over the decades. But note that every decade of significant *negative* speculative return has been followed by a decade of *positive* speculative return—the terrible 1910s, then the booming 1920s; the awful 1940s, then the great 1950s; the nasty 1970s, then the booming 1980s and 1990s—an unprecedented double decade of large speculative returns. But over the full century, speculative return had virtually no influence on the general level of stock returns, contributing only 0.2 percent to the 9.5 percent total investment return (shown in **orange** in **Chart 2**).

The point is this: Over the very long run, it is the *economics* of investing—enterprise—that has determined total return; the evanescent *emotions* of investing—speculation—so important over the short run, have ultimately proven to be virtually meaningless. As we show, in the past eleven decades, the 9.5 percent average annual return on U.S. stocks has been composed of 9.3 percentage points of investment return (an average dividend yield of 4.5 percent plus average annual earnings growth of 4.8 percent), and only 0.2 percent of speculative return, borne likely of an inevitably period-dependent increase in the price-earnings ratio during this long period. *Over the long term, ownership of American business has been a winner's game.*

III. Sources of Bond Returns

The sources of bond returns are even simpler than the simple system for stocks that I've just described. The entire *investment* return on a bond is based on its initial yield. While in shorter periods, bond returns have a speculative component based on fluctuations in the general level of interest rates, over the longer run that speculative component must approach zero. After all, a ten-year bond is destined to be redeemed for par when it matures. **(Chart 4)** So the ten-year total return on an intermediate-term bond **(blue line)** is determined primarily by the interest rate, (i.e., the yield-to-maturity) on the date of purchase **(red line)**.



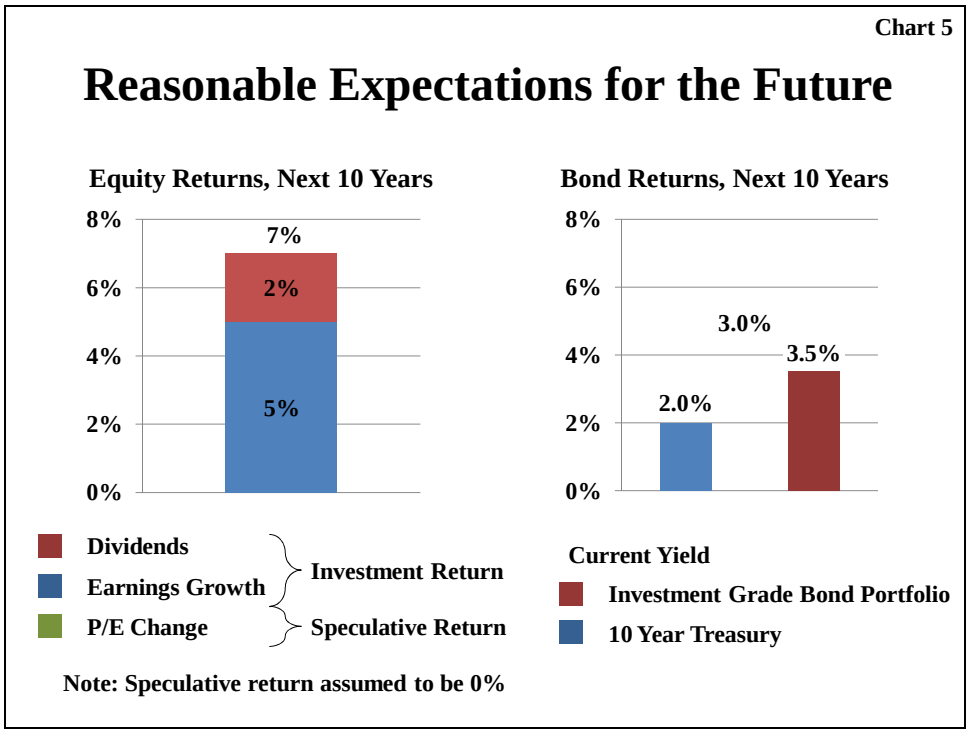
This relationship meets the test of logic, and has been quite stable through time. For example, the correlation between the initial yield on an intermediate-term U.S. Treasury bond and its subsequent ten-year return has been a remarkable 0.90. While reversion to the mean in P/E ratios has been a powerful force in stock returns, interest rates have no reason to revert to the mean. The fact that bonds have earned, on average, 5 percent per year in the post-World War II era is utterly irrelevant. What matters is today's 3 percent yield on a portfolio of treasuries and investment-grade bonds of intermediate-to-long maturity. The yield on a bond or a bond portfolio so nicely matches Lord Keynes' concept of *enterprise*—"the yield on an asset over its entire life."

Today, with the continuing decline in interest rates, the yield-to-maturity on a blended bond portfolio is a far cry from that halcyon era. With the 10-year Treasury at 1.6 percent, the 30-year Treasury at 2.6 percent, and investment-grade corporates at 3.3 percent, the combined yield is approximately 3 percent at best, a far cry from the 9.5 percent annual return we enjoyed during the decades of the 1980s and 1990s.

IV. Reasonable Investment Expectations for the Coming Decade

Now let's review and look ahead. Relying on the *sources* of market returns has proved in the past to be an exceptional way to establish reasonable expectations for the future returns on stocks. We know more than we think. The initial dividend yield at the start of the decade is already a known factor, and corporate earnings are likely to continue to grow at a rate closely related to the growth of our nation's GDP. While the level of the P/E ratio a decade hence can hardly be known in advance, we do know that RTM comes heavily into play. If the P/E ratio was below 12 at the start of a past decade, it was highly likely (90 percent probability) to rise by its conclusion. If the P/E ratio was above 18, it was highly likely (80 percent probability) to decline over the decade.

So let's look at what we might expect in the decade beginning in mid-2012 **(Chart 5).** Today's dividend yield on the S&P 500 is 2.0 percent. Annual earnings growth in the range of 5 percent seems a reasonable possibility. Result: an *investment* return in the range of 7 percent per year. With outstanding earnings in 2011, the P/E now stands at around 16, close to the long-term historical average, so I don't expect that P/E to be a lot different when 2022 begins. Result: a *speculative* return of zero, more or less. Combining these two sources, reasonable expectations suggest *total stock market* annual nominal returns in the range of 6 percent to 8 percent during the coming decade, call it a likely outcome of 7 percent.



Now to bond returns. Since the entire source of the fundamental return over the subsequent decade is the current interest rate, we can reasonably expect an annual investment return near today's yield of 3 percent in a diversified portfolio of Treasury and investment-grade corporate bonds. If held for the full ten years, the final value of the bond portfolio is likely to center on its initial par value, assumed to be 100. So, with little or no significant *speculative* return (positive or negative) affecting the calculation, we can expect an annual *total return* on bonds in the range of 2 to 4 percent. Let's assume a likely return of 3 percent.

Over the coming decade, that difference between stocks and bonds matters. If stocks should return 7 percent, nominal capital would increase by about 100 percent. If bonds should return 3 percent, nominal capital would rise by about 35 percent. For a traditional 60/40 stock/bond portfolio, the expectation would be around 6 percent, or an 80 percent gain. CAUTION: these figures are merely my rational expectations. While I can guarantee an uneven path for both along the way, I can't guarantee the final outcome.

V. The Elusive 8 Percent

With reasonable expectations for a nominal annual return of roughly 7 percent on stocks over the coming decade, and, with somewhat more assurance, a return of roughly 3 percent on bonds, a traditional 60/40 stock/bond policy portfolio of a defined benefit pension plan might reasonably expect to earn a gross annual return averaging about 5.4 percent **(Chart 6).** Given the cost efficiencies in managing and administering portfolios with substantial assets, I might have assumed an annual cost of 0.5 percent, bringing the return to 4.9 percent. But if the pension fund adopts an index strategy, the cost could easily be as low as 10 basis points or less, bringing the net annual return to 5.3 percent, within one-tenth percent of the market return.[2] (Note: Even an inflation rate as low as 2 percent would result in a *real* return of only about 3 percent per year.)

[2] This example is a clear affirmation that investors as a group not only don't get what they pay for, they get precisely what they don't pay for. Therefore, if they pay nothing, they get everything (i.e., the markets' gross returns).

Chart 6

The Elusive 8%

A Template for DB Plan Returns Over the Coming Decade

Asset Class	1. Allocation	2. Projected Annual Return	3. Value Added by Managers	4. (2+3) Adjusted Annual Return	5. Less Investment Costs	6. (2 + 3 – 5) Net Return
Traditional Policy Portfolio						
Equities	60%	7.0%	0.0%	7.0%	-0.06%	6.9%
Bonds	40	3.0	0.0	3.0	-0.10	2.9
Total	100%	5.4%	0.0%	5.4%	-0.08%	5.3%
Policy Portfolio with 30% Allocated to Alternatives						
Equities	40%	7.0%	+2.5%	9.5%	-1.0%	8.5%
Bonds	30	3.0	+1.0	4.0	-0.5	3.5
Venture Capital	10	12.0	+3.0	15.0	-3.0	12.0
Hedge Funds	20	12.0	+3.0	15.0	-3.0	12.0
Total	100%	7.3%	+2.2%	9.5%	-1.5%	8.0%

So is 5.3 percent the nominal return that our DB plans—corporate and government alike—are projecting? No, it is not. The typical return projection is 8 percent, with precious few plans much lower or higher. Where does this estimate come from? Well, here is what one large corporation tells us: "We consider current and expected asset allocations, as well as *historical* and expected returns on various categories of plan assets . . . evaluating general market trends as well as key elements of asset class returns such as expected earnings growth, yields and spreads. Based on our analysis of future expectations of asset performance, *past return results*, and our current and expected asset allocations, we have assumed an 8.0 percent long-term expected return on those assets." (Note the reliance on historical returns.)

What would a plan's manager have to do to earn an 8 percent nominal return? (**Chart 6 lower section**) Let's make some assumptions that are arbitrary but not absurd. The chart shows one version of how various markets and asset-class managers must perform in order for a pension plan to reach that elusive goal.

Now let's consider how realistic the data in the table might be. First, the stock and bond returns are fully consistent with the reasonable expectations cited earlier. The 12 percent return required for venture capital is aggressive but perhaps not unreasonable. But the 12 percent required return for hedge funds is far above historical norms. Even if these outsized returns are realized, the managers will have to

add lots of excess value—on average 2.2 percent per year. To state an obvious truism, managers *as a group* are bound to achieve the market return. No more, no less, and only before costs.

As to the value added by the alternatives managers, my long experience tells me that only a microscopic percentage of the managers—if any!—can deliver the 3 percentage points of excess return they must deliver for the total plan to meet its 8 percent target. Good luck finding even one in advance! Competing with one another, DB plan managers as a group will produce *zero* Alpha before costs. With the typical costs that I've assumed, pension managers will, in the aggregate, produce significant *negative* Alpha.

So mark your calendars for June 2022, ten years hence, and see who's made the best estimate. For me, subjectively, even the 5.3 percent net return likely to be earned on a "plain vanilla" 60/40 traditional policy portfolio is a fairly ambitious goal. And even if that return is in fact achieved, the financial implications of the cumulative funding deficit resulting from the 8 percent assumption would be staggering, particularly when today's cumulative deficit of our corporate DB plans alone already exceeds $500 billion. After reaching the record funding ratio of 120 percent in 2000, our corporate plans are now only 80 percent funded. By then, I hope, our corporations will be required to report the *actual* returns of their DB plans over the prior ten years, disclosure that, absurdly, has never been mandated.

VI. The Challenges We Face

To sum up, in mid-2012, economic and market conditions together constitute as challenging a combination as I have seen at any time during my 61 years in finance (a milestone I will reach on July 5).

Economic conditions in the U.S. and around the globe are, bluntly put, threatening. The battle has been joined between Keynesians demanding that governments borrow and spend to increase aggregate demand for goods and services, and Hayek-ites (disciples of the Austrian School of Economics) calling for fiscal austerity. It's premature to guess how a compromise might be reached. For the political will to save both the Euro from fragmentating and the dollar from inflation by taking strong action to reduce our nation's massive overlay of debt seems stymied by partisan interests. Our economic future depends on resolving these seemingly intractable issues—and there are many others!

Financial market conditions, too, are unusually difficult. While the U.S. stock market seems reasonably valued, its long-term performance—let us never forget—is ultimately dependent on the course of our own economy and the global economy. In many earlier eras of challenge, bonds provided not only a haven against stock market risk, but solid yields while you waited. Today, bond yields are, well, awful. The yield on ten-year U.S. Treasury notes is just 1.6 percent, and the yield on the Treasury dominated total bond market index is just 2.03 percent, only slightly above the stock yield of 1.95 percent.

My unvarying advice has been to accept the yield environment as it exists (no matter how painful). Most investors should avoid reaching out on the risky limb for higher-yielding junk bonds and stocks. With U.S. Treasury yields so low relative to investment-grade corporates, however, a holder of the total bond market index (72 percent in government-backed issues), might seek some increased exposure to corporate bonds, as I suggested a few paragraphs earlier.

Happily for my peace of mind, I'm not alone in my view that future returns in the financial markets will fall well short of historical norms. Two of the best in the business—Cliff Asness, managing principal of hedge fund manager AQR Capital Management, and PIMCO's Bill Gross—share my concerns. In his *Investment Outlook* for June 2012, Bill Gross actually has a more cautious—even negative—view than my own. Hear his blunt words:

> The developing credit cancer may be metastasized, and the global monetary system fatally flawed by increasingly risky and unacceptably low yields, produced by the debt crisis and policy responses to it. The great white whale lies waiting on the horizon. Investors should sail carefully and the Wall Street 1% should put on their life vests if they expect to weather the inevitable storm that may threaten the first-class cabins they have come to enjoy.
>
> Deleveraging [has] produced narrower yield margins, asset price exhaustion, and a reluctance on the part of lenders to lend (and in many cases – borrowers to borrow). Combined with now negative real interest rates of 200-300 basis points on the front end of the lending curve, the ability to successfully lever financial market returns has been jeopardized. Bond, equity and all financial assets which are structurally bound together by this dynamic *must lower return expectations.* Maintain a vigilant watch matey!

Cliff Asness, writing in the May issue of *Institutional Investor*, is equally unequivocal:

> Institutional investors are in a quandary. *They commonly target 5 percent real annual returns, or 7 to 8 percent nominal returns.* Starting from today's prices for stocks and bonds, the likelihood of actually achieving those returns is low. . . In recent years some investors have

gingerly lowered their long-run targets but few institutions outwardly expect less than a 4 percent real return or 6 to 7 percent nominal return on their overall portfolios. Over the past decade and a half, such expectations have generally not been fulfilled, and most investors will likely be disappointed yet again over the coming decade. In fact, those with simple, traditional portfolios like 60-40 U.S. stocks and bonds are even more likely to be disappointed going forward.

Currently the prospective real yield on the 60-40 portfolio is 2.4 percent, its lowest level in 112 years. Roughly speaking, the ex-ante real yield on stocks is 4 percent and bonds is zero percent—both below their long-run average levels, with bonds well below.[3] The prospectively low-return environment underscores the importance of cost-effectiveness, whatever returns investors are harvesting. When it comes to external management, it is essential to not pay alpha prices when it's not really alpha. Fair fees depend on the return source. Today is relatively unique in that both stocks and bonds are expensive at the same time.

In conclusion, traditional, simple asset-class allocations—say, 60-40 stocks and bonds—are likely not going to make 5 percent real returns from here given that forward-looking real returns are at half this level. The standard universe of "alternative asset classes" is not likely to fill the gap, as it tends to repeat the problem of concentration in equity risk, just at a higher fee.

Who Actually *Earns* the Market's Returns?

In my view, then, we are looking ahead to a decade of returns in the financial markets that are well below historical norms (9 percent for stocks, 5 percent for bonds), albeit a decade in which equities seem highly likely to provide a significant return premium over bonds. But please remember this: the returns I have projected are not of the real world. They are the *theoretical* returns delivered by the stock and bond markets, *before* the deduction of investment costs. That raises this crucial question: *Just who is it that earns the returns generated in our financial markets*?

Answer: Very few investors. *So whatever returns the financial markets are generous enough—or stingy enough—to deliver, please don't make the mistake of thinking you will actually earn those returns*. Of course all investors *as a group* must necessarily earn *precisely* the market return. But they do so only *before* the costs of investing are deducted. *After* these costs are taken into account—all of the advisory

[3] My own 5.4 percent expectation for nominal returns entails an assumed 2.5 percent inflation rate for a real return of 2.9 percent, virtually identical with Cliff's figure.

fees, the transaction costs, the consultants' costs, the operating costs, and the hidden costs of financial intermediation—the returns of investors must—*and will*—fall short of the market return by an amount precisely equal to the aggregate amount of those costs. Beating the market *before* costs is a *zero-sum* game; beating the market *after* costs is a *loser's* game. *The great paradox of investing is that the very costs incurred by those managers who strive to help investors to beat the market, themselves constitute the reason that the managers as a group are destined to fail at the task.*

Do costs matter? You bet they do! And they matter most of all in diversified investment portfolios. Why? Because while much of the value of most consumer goods is measured by intangibles such as taste and tone and prestige and image, both the returns and the costs of an investment account are measured *entirely* by that most measurable of all assets, *dollars*. For investors, costs matter most when they are (1) easily calculable, (2) *directly* related to returns, and (3) compounded over time. So pension funds, endowment funds, and foundations, all institutions with notably long-term—in a sense, perpetual—investment horizons can hardly fail to consider the role of costs. Just as the magic of compounding *returns* over, say, a quarter-century, carries investment values to almost unimaginable heights, so the tyranny of compounding *costs* results in an almost equally unimaginable deterioration in these returns. If the market return—before costs—averages 7 percent over 50 years but only 5 percent after costs, the final value an initial investment of $10,000 tumbles from $295,000 to $115,000, fully 60 percent less.

So, yes, these are tough times for investors who assume that the past is prologue and who ignore the impact of costs, in a shaky financial system in which a short-term speculation has crowded out long-term investment. It is up to professional analysts—exemplified by the CFAs in this audience—to help investors cut through the fog of today's investment climate, to allocate their assets with care, and to avoid joining the crowd of traders and speculators. Whatever we do, *invest we must, however, for not investing is an iron-clad formula for failure.*