

## INVESTING VERSUS GAMBLING

Some people regard investing as gambling; others, who think they are investing, are, in fact, gambling. The purpose of this paper is to try to help the reader figure out to what extent he may be doing or contemplating either and, thereby, enable him better to allocate his financial assets in accordance with his true needs, objectives, and aspirations.

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### PRACTICE

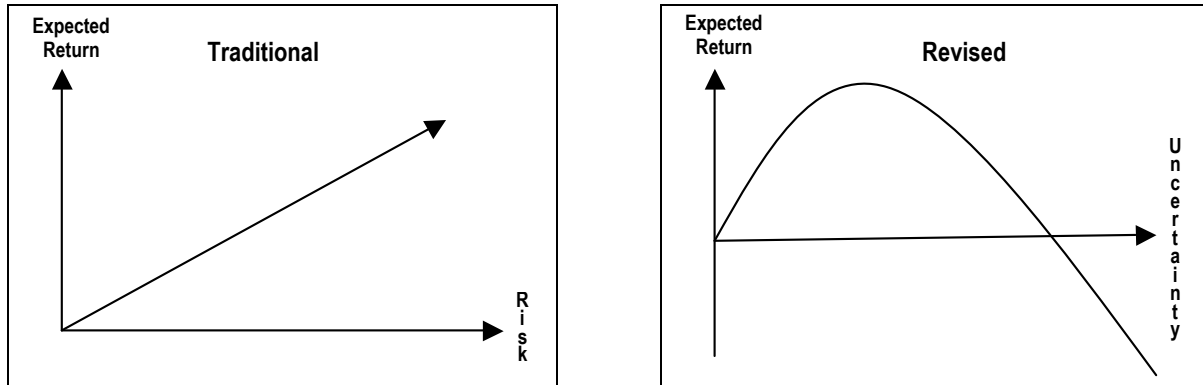
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### THE TRADITIONAL NOTION OF THE RELATIONSHIP BETWEEN RISK AND RETURN

The traditional expected return trade-off is illustrated by the first of the two following graphs. It says simply that, to achieve higher rates of return, we must take on greater risk; and, conversely, if we take on greater risk, we should expect higher returns.

This traditional assumed relationship appears to fall short of describing reality in two important respects: (1) The horizontal axis is in need of a different label, and (2) the shape of the curve is not accurate.

The second or revised graph seems to represent the real world more correctly, and it should also be more useful in helping us decide how to deploy our savings.



### SEMANTIC PROBLEMS WITH THE WORD "RISK"

The difficulty with accepting the word "risk" as the parameter for the horizontal axis is its failure, in common parlance, to encompass the concept of pure "volatility," exclusive of the collateral issue of "safety."<sup>1</sup> The dimension of "risk," in the minds of most people, is a measure of uncertainty regarding the safety of one's principal and implies the possibility of a loss of some or all of that principal that is permanent. The word "volatility," on the other hand, implies uncertainty in the magnitude and/or timing of one's returns, at one extreme accompanied by the utmost stability of one's principal and, at the other extreme, accompanied by the possibility of a loss of principal that is only temporary.

Having money in the stock market is like riding a roller coaster. The "thrill" of the ride is a function of the "geometry" of the structure. This geometry, however, tells us nothing about the "safety" of the system. For knowledge of the safety of a roller coaster, we need data on the tolerance of its components to stress and its maintenance. We might use the term "volatility" to describe the "thrill" of the ride, and "risk" to discuss its "safety." The connotations of the word "risk," however, render the term inappropriate to embrace the "thrill" of a roller coaster ride, as removed from the issue of "safety."

By the same token, the term "risk," as typically used in discussing the securities markets, does not seem to encompass adequately the concept of "volatility" alone, as isolated from the concept of "safety." For that reason, the broader term, "uncertainty" has been substituted as the label for the horizontal axis on the revised expected return graph.

Perhaps the best example of the inadequacy of the term "risk" in describing the nature of a security is in the case of long-term U. S. Government bonds. On the one hand, long-term U. S. Government bonds are very volatile, with their prices fluctuating up and down violently with

<sup>1</sup> For purposes of this paper, "safety" refers to safety of "principal," as opposed to safety of "purchasing power."

changes in the level of interest rates; on the other hand, U. S. Government bonds are regarded as the safest securities money can buy. Where, then, are long-term U. S. Government bonds to be located on the traditional risk-return graph? Hopefully, as will be explained next, the more inclusive word, "uncertainty," allows for a more appropriate placement.

### THE HORIZONTAL AXIS - UNCERTAINTY

(From this point forward, it might be useful if the reader were occasionally to refer to the enhanced version of the revised expected return chart included as page 16.)

The horizontal axis on the revised chart depicts the relative degree of uncertainty in both the magnitude and timing of our returns and in the safety of our principal, for various ways we might deploy our money. As we move from left to right on the horizontal axis, we first encounter uncertainty in the sense of volatility in the magnitude of our returns. As uncertainty increases, it includes volatility in the timing of these returns; and, further on, up to the vertical dashed line, it includes the possibility of a temporary loss of our principal. The entire domain to the left of the vertical dashed line we call "investing." The salient characteristic of investing is the higher probability that any loss of principal we might experience will be only temporary.

As we proceed to the right of the vertical dashed line on the uncertainty continuum, we enter the domain of risk which involves a greater possibility of a permanent loss of our principal. Committing money in the domain of risk we call gambling.

### THE VERTICAL AXIS - EXPECTED RETURN

The vertical axis represents "expected return." Expected return may be defined as the average rate of return for a large number of commitments to the same asset category over an extended period of time. In the case of common stocks, for example, the expected return is not for any specific common stock but, rather, is the average for the universe of common stocks of the same type over long periods of time.

It will be observed on the chart that, other than for the point of a zero rate of return, there are no other specific rates of return labeled on the vertical axis. Less erratic than absolute rates of return are relative rates of return, and less erratic than relative rates of return are hierarchical rates of return. The rates of return depicted on the chart are meant to be hierarchical and, for our purposes here, such a hierarchy should suffice.<sup>2</sup>

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<sup>2</sup> For Assets A and B, assume that the average absolute rates of return over some period have been 8% and 4% per year respectively; the relative return on A, then, would have been twice that on B; the hierarchical return on A, however, would have been simply greater than that on B, with neither how much greater, nor the ratio of their magnitudes, being specified.

### **THE PARADOX OF THE EXPECTED RETURN GRAPH**

As previously indicated, the traditional risk-return relationship implies that greater risk produces greater return. There is an ambiguity in this statement, however. Though higher risk may provide for the possibility of a higher return, it may also provide the probability of a lower return. If one of the consequences of taking incremental risk is the greater probability of a lower rate of return, we cannot legitimately contend that taking greater risk produces a greater return, even though that possibility may be there.

Capitalism does, however, seem to say that, if we are willing to subject our capital to greater volatility (greater uncertainty in the magnitude and timing of our returns and a greater probability that we may experience a temporary loss), we are entitled to a higher rate of return for our pain and suffering. Historically, capitalism has delivered such higher returns as compensation for such discomfort. It is, then, fair to say that there appears to be a strong positive correlation between volatility and return. The more volatility we are willing to accept in our investments, the higher return we should be able to earn on them.

### **THE PEAK AND DOWNWARD SLOPE IN THE REVISED GRAPH**

As noted above, with the traditional risk-return graph, as risk increases indefinitely on the horizontal axis, return rises indefinitely on the vertical axis. In reality, however, experience shows that, at some point on the horizontal axis of uncertainty, where volatility merges into risk, expected return peaks out and starts downward.

But, how can this be? How can an asset category that exposes us to greater volatility and risk, but also provides us with a lower expected return, even exist? Why do people put their money into such an asset? If they did not, the asset category could not endure. Why are people willing to accept a lower return on, or pay a premium to their true financial worth for, some financial assets? There are two factors that can help explain this counter-intuitive shape of the revised expected return graph.

### **THE "LOTTERY FACTOR" AND THE ENTERTAINMENT VALUE OF RISK**

Assume that we have a dollar burning a hole in our pocket and we can choose between one of two lottery tickets. The first lottery affords us one chance in fifty of winning \$100. The second lottery offers us one chance in two million of winning \$1 million. Which ticket would we buy?

At least some, if not most, of us will choose Lottery #2. Winning \$100 may make a little water cooler conversation, but winning \$1 million could change our whole way of life.

Lottery #1, however, more nearly resembles an investment. The law of averages says that, if we buy fifty of these lottery tickets, we shall invest \$50 and reap a return of \$100. That is a 100% return on our money.

Conversely, if we buy two million tickets to Lottery #2, it will cost us \$2 million, and the law of averages says we will win only \$1 million and so experience a 50% loss.

Clearly, though Lottery #2 does not make a very good investment, it has something going for it. Let us call it an entertainment or excitement value, or the "lottery factor." Even after doing the arithmetic, many of us might opt for Lottery #2.

The proclivity of great numbers of people for buying horse race and lottery tickets and making other sorts of bets with their money, whereby they are almost guaranteed to be losers over the long-term, demonstrates that, for some assets (lottery and horse race tickets), people are willing to pay for a financial asset a price in excess of what they know the asset financially to be worth. In other words, they are willing to put money into an asset with an expected return that is less than they know they could get elsewhere and, in fact, perhaps an expected return they know to be negative. This, then, is the definition of gambling. The bona fide benefit that gambling may provide, that investing may not, however, is entertainment and excitement.

It should, then, be understandable that many people are willing to deploy their money in ways that are a blend of investing and entertainment. If one has the choice of purchasing one common stock with an expected return of 10% per year and another common stock with an expected return of 1% per year, but with the remote possibility of a 1000% return, it should not be surprising that many people, at least with some portion of their money, will elect to purchase the latter common stock.

What is of critical importance, however, is that people who want to "invest" their money, and do not want to sacrifice a part or all of their return or principal for "entertainment," understand to what extent they are truly "investing" and to what extent they are actually "gambling."

### **THE "CURRENT" RETURN VERSUS "TOTAL" RETURN FACTOR**

A second explanation of why an asset category may have an expected return less than might be expected by virtue of the volatility and risk associated with it concerns the ratio of its "current" expected return to its "total" expected return.

"Current" return refers to the periodic dividend or interest income we derive from an asset. "Total" return refers to the sum (or difference) of this dividend or interest income and the capital appreciation (or depreciation) in the value of the investment over some period of time. Total return is generally accepted as the more useful measure of true return and expected return.

Because there may be some uncertainty as to whether we shall experience appreciation or depreciation in an asset, as well as uncertainty as to when it will come about, all other things being equal, most investors would prefer to receive all of their return on an investment as reliable periodic current income payments. For this reason, many investors are willing to accept a lower total return on an investment in exchange for less uncertainty as to when that return will be forthcoming. They are willing to accept a lower total return as long as a greater portion of that total return comes to them as current return.

As an example, zero coupon U. S. Government bonds yield more than U. S. Government bonds of the same maturity but with coupons. The explanation is that there is less uncertainty with a coupon bond than with a zero coupon bond as to when there will be a favorable return on the bonds. For the greater uncertainty of the zero coupon bond, investors require a higher rate of total return.

The same trade-off exists with common stocks. Collectively, for stocks of comparable quality, low dividend growth stocks return more than high dividend income stocks. The incremental return on growth stocks is simply the marketplace's compensation to the growth stock investor for his acceptance of the greater uncertainty in the timing of the greater part of his return.<sup>3</sup>

As a general rule, then, the greater the portion of total return that is represented by current return, the lower total return one should expect to earn on the asset.

### **NON-ECONOMIC, UNNECESSARY, OR AVOIDABLE RISK**

It is useful to draw a distinction between economic and non-economic risks. Capitalism pays for the former but not for the latter. In the management of our financial assets, it is especially important to recognize those risks for which we will not be paid.

As an analogy, if, when we go to work in the morning, we must cross a street, we expose ourselves to the risk of being run over. This is a risk for which capitalism will pay us. If we cross the street and get to work, hopefully, we can do something productive; if we do not cross the street, we cannot get to work, and so we cannot be productive. In part, then, we are paid for taking the risk of crossing the street. This is an economic, necessary, and unavoidable risk, and so capitalism will pay us for taking it.

Increasing one's exposure to risk, however, does not necessarily assure a higher return. If, for example, before we enter the office in the morning, we decide to walk back and forth across the street a dozen times, though we will increase our exposure to risk, we will not increase our

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<sup>3</sup> Security analysts use the term "duration" to describe and, in the case of bonds, to measure, the degree of uncertainty in the timing of the return on an investment. For example, all other things being equal, a low-coupon or zero coupon bond has a longer "duration" than a high coupon bond. Longer maturities also produce longer durations. All other things being equal, a high dividend paying stock would have a shorter duration than a low dividend paying stock.

productivity nor increase the return on our day's endeavors. We have exposed ourselves to a non-economic, unnecessary, and avoidable risk.

In investing, the most common risk considered unnecessary, avoidable, and non-economic, and for which capitalism will not pay, is non-diversification, or having too many eggs in too few baskets. Modern portfolio theory asserts that capitalism will not pay us for the risk to which we expose ourselves by being too heavily concentrated in one security or a few securities. In other words, the risk associated with having too heavy concentrations in too few risky assets is like walking back and forth across the street a dozen times before we walk into the office in the morning. It is a risk, the exposure to which, capitalism simply will not pay.

### **ZERO-SUM AND NEGATIVE-SUM GAMES**

Non-economic risks may also be looked at as man-made or artificially contrived risks. The risk of unnecessarily walking back and forth across the street is an artificially contrived risk. The risk in a poker game is man-made or artificially contrived and non-economic. Capitalism will not pay us for playing poker.

Poker is also what is known as a "zero-sum" game. A zero-sum game is one in which the total gains of all the winners exactly equals the total losses of all the losers. By definition, there is no net economic benefit to the players collectively (or to society as a whole) in a zero-sum game.

If poker is played in a casino where the house takes something out of each pot, our zero-sum game becomes a "negative-sum game." In a negative-sum game all players, over time, may be expected to lose.

Derivative securities may be classified as negative-sum games. A derivative security represents an artificially contrived risk that rides piggy-back on, or is tied to, some asset that represents a true economic risk.

The most popular derivative security is the call option which depends for its value upon the behavior of some underlying common stock. Player #1 may be willing to purchase a call on a stock under the presumption that the stock is currently undervalued and that it will rise over the next few months. Player #2 may be willing to take the other side of Player #1's bet by going "short" a call (selling to Player #1 a call Player #2 does not own) with the expectation that the stock is overvalued and so both stock and option will drop in price over the next few months. The options exchange obligingly creates a contract for the two players and, at expiration, one player, in theory, has lost exactly what the other player has gained.

In theory, then, our players have created a zero-sum game. In practice, however, they are really playing a negative-sum game. That is because the house does, indeed, take something out of the pot - namely commissions and taxes on the transactions.



## THE RELATIVITY OF RISK

In spite of our effort to make a fine distinction between volatility and risk and our effort, shortly, to assign asset categories on the spectrum of uncertainty, it is also useful to acknowledge that risk, in addition to being an attribute of the asset in question, is also a function of the investor for whom the risk is being assessed. What may be a risky asset for one investor may not be a risky asset for another. For an investor with a short investment time horizon, volatility may be construed as risk; and, conversely, given a long investment time horizon, what might have seemed like risk becomes nothing more than volatility.

As an example, let us suppose that Investor #1 and Investor #2 each purchase ten-year U. S. Treasury bonds. Investor #1 purchases his bonds with money he has earmarked to build a house in two years; Investor #2 purchases his bonds with money he has earmarked for retirement in ten years. Let us further suppose that interest rates spike upwards over the next two years. When interest rates go up, bond prices go down. Investor #1, then, loses money on his bonds when he sells them, two years hence, to build his house; Investor #2, however, runs no risk whatever of a money loss because he will hold his bonds until maturity, and he knows they will mature at par. Clearly, the very same asset has been risky for Investor #1 but not risky for Investor #2.

The maturity risk on bonds, of course, is one that is easily controlled. Investor #1 simply need not put into a ten-year bond money he knows he wants to spend in two years; he can purchase a two-year note, instead. For equities, which have no maturities, however, the distinction between risk and volatility, relative to each investor, can be more problematic. Ascertaining whether an investor's assumption of a given degree of uncertainty entails an unacceptable level of risk or an acceptable level of volatility is the essence of determining the suitability of that investment to the investor's investment time horizon.<sup>4</sup>

Let us now examine the various major asset categories, item-by-item, to try to understand better the extent to which each is an investment and the extent to which each is a gamble and to see why it appears where it does on the revised expected return chart.

## CASH

That investment entailing the least uncertainty is cash. If we put cash under our mattress, we always know how much we have (provided it is not stolen or our house does not burn down). We also know exactly what our rate of return will be for as long as it is kept in that location. It will, of course, be zero.

If we put cash in the bank, we always know how much money we have and we can always know when the bank pays its interest but, because the rates paid by banks vary over time, we do have

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<sup>4</sup> Other important suitability considerations include the investor's personal tolerance for risk and volatility and his income tax and estate tax circumstances.



some volatility or uncertainty as to what our future rates of return will be. For accepting this uncertainty, we are paid a modest return.

With our cash in the form of U. S. Treasury bills (U. S. Government securities with maturities of less than one year), in addition to the uncertainty about future rates of interest, we are subject to the possibility of a modest loss (or gain) if we need to sell our bills before they mature. For this higher level of uncertainty, we are paid a slightly higher return.

### **HIGH QUALITY BONDS**

"High quality" bonds are generally defined as those carrying Standard & Poor's ratings of AAA, AA, or A or Moody's ratings of Aaa, Aa, or A. ("Investment Grade" includes, also, bonds rated BBB by S&P or Baa by Moody's.)

Though, with high quality bonds, we are assured of fixed semi-annual payments of interest, we are exposed to variations in the resale price of the bonds, in the event that we should elect to sell them before maturity. If interest rates go up between the time we purchase a bond and the time it matures, and we sell the bond during that interim, we shall probably incur a loss; similarly, if interest rates go down during that period, we may enjoy a gain in the price of the bond (subject to call features).

Changes in the prevailing level of interest rates can dramatically change the resale price of a bond before maturity, and so change significantly the total return on the bond for its owner. Other things (coupon and quality) being equal, the longer the maturity of a bond, the greater the degree of uncertainty in its total return, if not held to maturity.

Given two bonds of the same maturity and quality, the bond with the lower coupon will also be the more volatile. That is because less of the bondholder's return comes in the form of fixed semi-annual coupon payments, and so his total return is more sensitive to changes in interest rates. For this reason, other things (maturity and quality) being equal, zero coupon bonds are more volatile than bonds which pay interest semi-annually.

For accepting this greater uncertainty in the ownership of bonds, therefore, capitalism pays the bondholder more than it does the holder of cash.

### **COMMON STOCKS**

Historically the prices of common stocks have been more volatile than the prices of bonds; and, because so much of their total returns have come from capital appreciation, as opposed to dividend income, the timing of their returns has been even more uncertain than that of bonds.

We define "high-quality" stocks as those carrying Standard & Poor's ratings of A+, A, or A-. As a frame of reference, at any given time, approximately 40% of the stocks in both the Dow-Jones Industrial Average and the Standard & Poor's 500 Index carry these "A" category ratings.

Income stocks have dividend yields that are above average while growth stocks have dividend yields that are below average.<sup>5</sup> To be classified as a growth stock, we require that a stock have a *Value Line* "Timeliness" rating of #1 or #2.

For us to classify a stock as "high-quality growth," then, it must have both a *Standard & Poor's* rating of A+, A, or A- and a *Value Line* "Timeliness" rating of #1 or #2. To be classified as "aggressive growth," we require that a stock carry a *Value Line* "Timeliness" rating of #1 or #2, but we waive the S&P hurdle for quality.

On the chart, it will be noticed that "Aggressive Growth Stocks" fall on the border line between "investing" and "gambling." These stocks are decidedly the most volatile within the domain of "investing", and many fall into the domain of "risk" whereby one needs, indeed, to be prepared for the possibility of permanent loss.<sup>6</sup>

Because of their greater volatility, then, common stocks have, historically, delivered higher rates of return than have either cash or bonds.

### **OBJECTIVITY AND SUBJECTIVITY IN ASSIGNING THE REMAINING ASSET CATEGORIES**

The degree of uncertainty (volatility and risk) and the expected return that one assigns to a given category of assets depends, in part, upon how one defines the category and the period of time over which the category's behavior is observed.

In the domain of investing, there is general agreement with respect to the historical degrees of volatility and the hierarchy of expected rates of return experienced with the various asset categories. With respect to the historical behavior of the asset categories in the domain of risk, however, agreement is less universal.

For this paper, in so far as the writer is aware of historical supporting data, the relative assignments of the several asset categories within the domain of risk is objective; and, to the extent that he draws upon three and one half decades of observing the investment experiences of others, they are subjective.

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<sup>5</sup> The category of high quality income stocks is almost an oxymoron because so few such companies exist. A common stock usually has a yield that is above average because its quality is below average.

<sup>6</sup> One of the more common categorizations of common stocks is by capitalization (i.e., large cap, medium cap, small cap, and microcap). It is this writer's conviction, however, that such distinctions are not useful in the common stock selection process, and so these categories are not used here. For more on the subject of "large cap" versus "small cap" investing, please see that subject on our web site.

## **REAL ESTATE INVESTMENT TRUSTS (REITs)**

A real estate investment trust (REIT) provides a good example of a security for which investors commonly sacrifice some expected total return and some degree of safety for the satisfaction of receiving high current income. Studies indicate that REITs have been more volatile and have delivered a lower rate of return than the Standard & Poor's 500. REITs also tend to be highly interest rate sensitive - so much so that, during the credit crunch of the 1970s, great numbers of REITs went bankrupt. On the basis of history, then, the possibility of a permanent loss in the ownership of REITs is relatively high.<sup>7</sup>

## **JUNK BONDS**

Junk bonds are defined as those carrying Standard & Poor's or Moody's ratings that are below investment grade (below BBB or Baa). In explaining its ratings, Standard & Poor's says, "Debt rated [below BBB] is regarded, on balance, as predominantly speculative with respect to capacity to pay interest and repay principal in accordance with the terms of the obligation... While such debt will likely have some quality and protective characteristics, these are outweighed by large uncertainties or major risk exposures to adverse conditions."

Needless to say, junk bonds are risky, in every sense of the word. The consequences of bearing such risk, however, would be far more likely to strike during a severe recession or during a period of unusually high interest rates.

The reason junk bonds have appeal to some investors is that, as with REITs, they provide unusually high current returns. The trade-off for this high current return is a lesser total return over time and the very real risk of a significant loss of principal.<sup>8</sup>

## **CONVERTIBLE BONDS**

Most convertible bonds are junk bonds and so also harbor high risk. Their attractions are a higher current income than a typical common stock, an appearance of safety by virtue of being a bond, and the potential for appreciation by being convertible into stock. For this "best of both worlds" illusion investors are willing to accept lesser total returns.<sup>9</sup>

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<sup>7</sup> For more on REITs, please see that subject on our web site.

<sup>8</sup> For more on junk bond ratings, please see that subject on our web site.

<sup>9</sup> For more on convertible bonds, please see that subject on our web site.

## **SPECULATIVE TURNAROUND STOCKS**

The companies that underlie speculative turnaround stocks are similar to the companies that typically issue convertible bonds. They are financially weak. Speculative turnaround stocks do carry the possibility of spectacular gains if their turnarounds are successful (the "lottery" factor). Because most speculative turnaround companies do not get turned around, however, the net return on a basket of such companies tends to be sub par.

## **EMERGING GROWTH STOCKS**

Emerging growth companies are companies, most of which have come to market recently via initial public offerings, and which are still struggling in their infancies. They include the small high-technology stocks of the current era - the Internet and bio-medical companies, many of which are not yet generating profits. Their stock prices are propelled by the public's imagination as to how extraordinarily successful such a company can be, if all goes according to plan.

So glamorous are the prospects in such an industry, however, that many more participants are attracted into it than the industry can accommodate. Though the industry may grow at a phenomenal pace, most participants lose market share at an even faster pace, and so fail to prosper.

Though the excitement of the "lottery" factor is very much in play with the emerging growth stock sector of the stock market, the odds are so heavily stacked against the success of each individual company in it, that most participants in this sector experience sub par returns.

## **INITIAL PUBLIC OFFERINGS (IPOS)**

Initial public offerings (IPOs) typically sell at a premium to their true worth as investments and so deliver sub par returns for three reasons: (1) They tend to be intensively marketed at the time of issuance and so bid up in price above their inherent worth; (2) they carry with them the excitement of enabling the purchaser to get in on the ground floor; and (3) some IPOs have done extraordinarily well in the marketplace (the "lottery" factor). On average, however, IPOs have not done well for most people who have acquired them.<sup>10</sup>

## **EMERGING MARKETS**

Emerging market stocks offer the possibility of above-average gains, if capitalism in the less-developed nations in which they are located blossoms and thrives. As was driven home in 1998, however, the emerging markets are extremely risky and vulnerable. All of the gains accrued in

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<sup>10</sup> For more on IPOs, please see that subject on our web site.

most emerging stock markets over the previous ten years were annihilated in just a few months in 1998.

### **GOLD AND OTHER PRECIOUS METALS**

Gold and other precious metals are commodities, as opposed to productive assets, and, as such, do not generate positive returns, over and above the rate of inflation, when held over long periods of time.

In addition to the entertainment value of trying to time the precious metals cycles, there may even be a prestige or snob factor in the ownership of gold. In any event it has been a very poor investment for most people who have held it.<sup>11</sup>

### **LIMITED PARTNERSHIPS**

It appears that limited partnerships are acquired, in spite of their historically dismal results, in part, because of their heavy promotion by many so-called financial planners who derive extraordinary commissions by selling them. Limited partnerships, too, may carry some degree of snob appeal because their purchase is usually limited to individuals who meet certain minimums of income and/or net worth.

Typically, limited partnerships are highly or totally illiquid. In the past, they have commonly been vehicles designed to exploit loopholes in the Internal Revenue Code. Much of the money that has been lost in such limited partnerships has been the consequence of Congress' subsequently passing legislation that closed the loopholes before the limited partnerships had closed.

### **HEDGE FUNDS**

In its plain vanilla form, a hedge fund uses half its money to buy stocks long and the other half to sell stocks short. By so doing, in theory, it insulates itself from the volatility of the stock market as a whole. If the market goes up, it gains on the long side what it loses on the short side; and, if the market goes down, it gains on the short side what it loses on the long side. If the hedge fund is to make money, however, it must buy stocks that go up more (or down less) than the market and/or sell short stocks that go down more (or up less) than the market.

Though this is the basic theory of hedging, hedge funds tend to be far more complex, using bonds, derivative securities, and leverage (borrowed money) to implement their strategies.

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<sup>11</sup> For more on gold and precious metals, please see that subject on our web site.

Unlike mutual funds, hedge funds (which are actually limited partnerships) are not required to disclose their holdings; hence, much of what we know about them is anecdotal. Suffice it to say, however, that 1998 was not a good year for hedge funds. In 1998, the world's largest (and previously most esteemed) hedge fund, Long-Term Capital Management, after just four years in operation under the direction of a Wall Street "dream team" that included former Federal Reserve Board Vice Chairman, David Mullins, and two Nobel Laureates, Robert Merton and Myron Scholes, imploded. Its participants lost over 90% of their investments, and some of its partners were threatened with personal bankruptcy because of money they borrowed personally to invest in the fund. On the basis of his last-minute rescue actions, it also became apparent that the current Fed Chairman, Alan Greenspan, feared that the complete collapse of Long-Term Capital Management might have brought the banking system of the rest of the world down with it.

### **STOCK OPTIONS**

As explained earlier, stock options are zero-sum games in theory and, because of transaction costs, negative-sum games in practice. Stock options, as do all derivative securities, represent artificially-contrived, man-made risks. All participants must be net losers if they play the game long enough.

The purchase of a call is an example of the "lottery" factor at work, while the sale of a call is an example of the "current return" trade-off at work.

### **COMMODITIES FUTURES**

As pointed out under the discussion of gold and other precious metals, commodities are non-productive assets and so generate no economic return. Over the long-term, by holding a commodity, one might expect a return equal to the rate of inflation, less carrying charges, which charges may well exceed the rate of inflation.

Commodities futures contracts, like stock option contracts, are man-made, artificially contrived risks that behave as zero-sum games in theory and negative-sum gains in practice. Futures represent the leveraged ownership of commodities, which magnifies one's interim gains and losses, and so accelerates the timing of the ultimate, long-term, inevitably adverse outcome.

### **CASINO GAMBLING**

Casino gambling represents negative-sum gaming in its purest form.

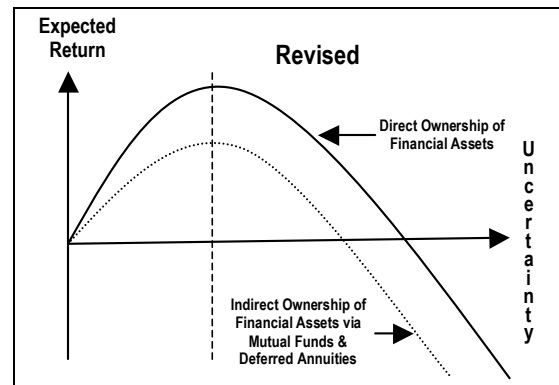
## LOTTERIES

Lotteries, of course, represent the most extreme form of gambling.

## MUTUAL FUNDS AND DEFERRED ANNUITIES

Where, one might ask, do mutual funds and variable deferred annuities fit into this picture.

The answer is that they lie on another curve somewhere below the curve we have so far been discussing. This other curve is illustrated by the dotted curve in the accompanying chart. Just where on the horizontal axis of uncertainty any mutual fund or deferred annuity sub-account<sup>12</sup> is located depends upon how it is invested. If it is a money market mutual fund, it will be far to the left; if it is a high-quality bond or stock fund, it will also be to the left of the vertical dashed line that separates investing from gambling; if it is a junk bond,



convertible bond, emerging market, or speculative turnaround stock mutual fund, it will fall to the right of the vertical dashed line where the gambling factor begins to prevail.

The expected return gap between the solid curve representing investing directly, and the dotted curve representing investing indirectly, varies with both the species of indirect investment (mutual fund or deferred annuity sub-account) and with how that species is invested. The gap is wide, however. For example, for investors indirectly invested in common stocks via mutual funds versus investors directly invested in common stocks, as measured by the Standard & Poor's 500 Stock Index, the gap in 1998 was 19%. That is, the average mutual fund investor earned 19% less in 1998 than did the average investor who owned his common stocks outright; and, over the past twenty years, variable deferred annuities invested in common stocks have underperformed mutual funds invested in common stocks, on average, by 0.70% per year.<sup>13</sup>

<sup>12</sup> Technically, the investments offered by variable deferred annuities are "sub-accounts." Except for the fact that their expense ratios are usually higher, for all practical purposes, deferred annuity sub-accounts behave exactly like, and are usually called, mutual funds.

<sup>13</sup> In 1998 the S&P 500 delivered a total return of 28.34% while the Wiesenberger composite of all equity mutual funds showed a total return of 9.74%. Over the 20 years ending with 1998, the Wiesenberger equity mutual fund composite returned an average of 15.28% per year while the Wiesenberger all equity variable annuity composite returned an average of 14.58% per year.



## CONCLUSION

It is useful to recognize that some assets deliver lower returns than those available on safer investments by virtue of their entertainment value or the lottery factor associated with them; and some assets deliver lower total returns than other safer assets because of the above average current yields available on them. When acquiring such assets, one should recognize that he is trading away both some expected return and some safety for the excitement of being a possible big winner or for the immediate satisfaction of a high current return.

For money that is intended to be deployed largely for investment and only minimally, if at all, for entertainment, it is suggested that one confine his assets largely to those to the left of the dashed vertical line on the accompanying chart.

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