

The word “investment” can be defined in many ways according to different theories and principles. It is a term that can be used in a number of contexts. However, the different meanings of “investment” are more alike than dissimilar. Generally, investment is the application of money for earning more money. Investment also means savings or savings made through delayed consumption. According to economics, investment is the utilization of resources in order to increase income or production output in the future.

An amount deposited into a bank or machinery that is purchased in anticipation of earning income in the long run is both examples of investments. Although there is a general broad definition to the term investment, it carries slightly different meanings to different industrial sectors.

According to economists, investment refers to any physical or tangible asset, for example, a building or machinery and equipment. On the other hand, finance professionals define an investment as money utilized for buying financial assets, for example stocks, bonds, bullion, real properties, and precious items.

According to finance, the practice of investment refers to the buying of a financial product or any valued item with anticipation that positive returns will be received in the future. The most important feature of financial investments is that they carry high market liquidity. The method used for evaluating the value of a financial investment is known as valuation. According to business theories, investment is that activity in which a manufacturer buys a physical asset, for example, stock or production equipment, in expectation that this will help the business to prosper in the long run.

## **Types of Investment in Security Analysis and Portfolio Management**

### **Types of investments**

Investments may be classified as financial investments or economic investments. In Finance investment is putting money into something with the expectation of gain that upon thorough analysis has a high degree of security for the principal amount, as well as security of return, within an expected period of time. In contrast putting money into something with an expectation of gain without thorough analysis, without security of principal, and without security of return is speculation or gambling. Investment is related to saving or deferring consumption. Investment is involved in many areas of the economy, such as business management and finance whether for households, firms, or governments.

Economic investments are undertaken with an expectation of increasing the current economy's capital stock that consists of goods and services. Capital stock is used in the production of other goods and services desired by the society. Investment in this sense implies the expectation of formation of new and productive capital in the form of new constructions, plant and machinery, inventories, and so on. Such investments generate physical assets and also industrial activity. These activities are undertaken by corporate entities that participate in the capital market.

Financial investments and economic investments are, however, related and dependent. The money invested in financial investments is ultimately converted into physical assets. Thus, all investments result in the acquisition of some asset, either financial or physical. In this sense, markets are also closely related to each other. Hence, the perfect financial market should reflect the progress pattern of the real market since, in reality, financial markets exist only as a support to the real market.

## **Nature and Objectives of Investment Management**

### **Nature of investment**

The features of economic and financial investments can be summarized as return, risk, safety, and liquidity.

#### **1. Return**

- All investments are characterized by the expectation of a return. In fact, investments are made with the primary objective of deriving a return.
- The return may be received in the form of yield plus capital appreciation.
- The difference between the sale price and the purchase price is capital appreciation.
- The dividend or interest received from the investment is the yield.
- The return from an investment depends upon the nature of the investment, the maturity period and a host of other factors.

$$\text{Return} = \text{Capital Gain} + \text{Yield (interest, dividend etc.)}$$

#### **2. Risk**

Risk refers to the loss of principal amount of an investment. It is one of the major characteristics of an investment.

The risk depends on the following factors:

- The investment maturity period is longer; in this case, investor will take larger risk.

- Government or Semi Government bodies are issuing securities which have less risk.
- In the case of the debt instrument or fixed deposit, the risk of above investment is less due to their secured and fixed interest payable on them. For instance debentures.
- In the case of ownership instrument like equity or preference shares, the risk is more due to their unsecured nature and variability of their return and ownership character.
- The risk of degree of variability of returns is more in the case of ownership capital compare to debt capital.
- The tax provisions would influence the return of risk.

### 3. Safety:

Safety refers to the protection of investor principal amount and expected rate of return.

- Safety is also one of the essential and crucial elements of investment. Investor prefers safety about his capital. Capital is the certainty of return without loss of money or it will take time to retain it. If investor prefers less risk securities, he chooses Government bonds. In the case, investor prefers high rate of return investor will choose private Securities and Safety of these securities is low.

### 4. Liquidity:

Liquidity refers to an investment ready to convert into cash position. In other words, it is available immediately in cash form. Liquidity means that investment is easily realizable, saleable or marketable. When the liquidity is high, then the return may be low. For example, UTI units. An investor generally prefers liquidity for his investments, safety of funds through a minimum risk and maximization of return from an investment.

Four main **investment objectives** cover how you accomplish most financial goals. These investment objectives are important because certain products and strategies work for one objective, but may produce poor results for another objective. It is quite likely you will use several of these investment objectives simultaneously to accomplish different objectives without any conflict. Let's examine these objectives and see how they differ.

### Capital Appreciation

Capital appreciation is concerned with long-term growth. This strategy is most familiar in retirement plans where investments work for many years inside a qualified plan. However, investing for capital appreciation is not limited to qualified retirement accounts. If this is your objective, you are

planning to hold the stocks for many years. You are content to let them grow within your portfolio, reinvesting dividends to purchase more shares. A typical strategy employs making regular purchases. You are not very concerned with day-to-day fluctuations, but keep a close eye on the fundamentals of the company for changes that could affect long-term growth.

### **Current Income**

If your objective is current income, you are most likely interested in stocks that pay a consistent and high dividend. You may also include some top-quality real estate investment trusts (REITs) and highly-rated bonds. All of these products produce current income on a regular basis. Many people who pursue a strategy of current income are retired and use the income for living expenses. Other people take advantage of a lump sum of capital to create an income stream that never touches the principal, yet provides cash for certain current needs (college, for example).

### **Capital Preservation**

Capital preservation is a strategy you often associate with elderly people who want to make sure they don't outlive their money. Retired or nearly retired people often use this strategy to hold on to their money. For this investor, safety is extremely important – even to the extent of giving up return for security. The logic for this safety is clear. If they lose their money through foolish investment and are retired, it is unlikely they will get a chance to replace it. Investors who use capital preservation tend to invest in bank CDs, U.S. Treasury issues and savings accounts.

### **Speculation**

The speculator is not a true investor, but a trader who enjoys jumping into and out of stocks as if they were hot shoes. Speculators or traders are interested in quick profits and use advanced trading techniques like shorting stocks, trading on the margin, options and other special equipment. They have no love for the companies they trade and, in fact may not know much about them at all other than the stock is volatile and ripe for a quick profit. Speculators keep their eyes open for a quick profit situation and hope to trade in and out without much thought about the underlying companies. Many people try speculating in the stock market with the misguided goal of getting rich. It doesn't work that way. If you want to try your hand, make sure you are using money you can afford to lose. It's easy to get addicted, so make sure you understand the real possibilities of losing your investment.

The secondary objectives are tax minimization and Marketability or liquidity.

## **Tax Minimization:**

An investor may pursue certain investments in order to adopt tax minimization as part of his or her investment strategy. A highly-paid executive, for example, may want to seek investments with favorable tax treatment in order to lessen his or her overall income tax burden. Making contributions to an IRA or other tax-sheltered retirement plan can be an effective tax minimization strategy.

## **Marketability/Liquidity:**

Many of the investments we have discussed are reasonably illiquid, which means they cannot be immediately sold and easily converted into cash. Achieving a degree of liquidity, however, requires the sacrifice of a certain level of income or potential for capital gains.

Common stock is often considered the most liquid of investments, since it can usually be sold within a day or two of the decision to sell. Bonds can also be fairly marketable, but some bonds are highly illiquid, or non-tradable, possessing a fixed term. Similarly, money market instruments may only be redeemable at the precise date at which the fixed term ends. If an investor seeks liquidity, money market assets and non-tradable bonds aren't likely to be held in his or her portfolio.

## **Risk and Returns: Concept of Risk and Returns**

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### **ADVERTISEMENTS:**

After investing money in a project a firm wants to get some outcomes from the project. The outcomes or the benefits that the investment generates are called returns. Wealth maximization approach is based on the concept of future value of expected cash flows from a prospective project.

So cash flows are nothing but the earnings generated by the project that we refer to as returns. Since fixture is uncertain, so returns are associated with some degree of uncertainty. In other words there will be some variability in generating cash flows, which we call as risk. In this article we discuss the concepts of risk and returns as well as the relationship between them.

### ***Concept of Risk:***

A person making an investment expects to get some returns from the investment in the future. However, as future is uncertain, the future expected returns too are uncertain. It is the uncertainty associated with the returns from an investment that introduces a risk into a project. The expected return is the uncertain future return that a firm expects to get from its project. The realized return, on the contrary, is the certain return that a firm has actually earned.

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The realized return from the project may not correspond to the expected return. This possibility of variation of the actual return from the expected return is termed as risk. Risk is the variability in the expected return from a project. In other words, it is the degree of deviation from expected return. Risk is associated with the possibility that realized returns will be less than the returns that were expected. So, when realizations correspond to expectations exactly, there would be no risk.

### **i. Elements of Risk:**

Various components cause the variability in expected returns, which are known as elements of risk. There are broadly two groups of elements classified as systematic risk and unsystematic risk.

### **Systematic Risk:**

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Business organizations are part of society that is dynamic. Various changes occur in a society like economic, political and social systems that have influence on the performance of companies and thereby on their expected returns. These changes affect all organizations to varying degrees. Hence the impact of these changes is system-wide and the portion of total variability in returns caused by such across the board factors is referred to as systematic risk. These risks are further subdivided into interest rate risk, market risk, and purchasing power risk.

### **Unsystematic Risk:**

The returns of a company may vary due to certain factors that affect only that company. Examples of such factors are raw material scarcity, labour strike, management inefficiency, etc. When the variability in returns occurs due to such firm-specific factors it is known as unsystematic risk. This risk is unique or peculiar

to a specific organization and affects it in addition to the systematic risk. These risks are subdivided into business risk and financial risk.

## **ii. Measurement of Risk:**

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Quantification of risk is known as measurement of risk.

### **Two approaches are followed in measurement of risk:**

(i) Mean-variance approach, and

(ii) Correlation or regression approach.

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Mean-variance approach is used to measure the total risk, i.e. sum of systematic and unsystematic risks. Under this approach the variance and standard deviation measure the extent of variability of possible returns from the expected return and is calculated as:

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Where,  $X_i$  = Possible return,

$P$  = Probability of return, and

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$n$  = Number of possible returns.

Correlation or regression method is used to measure the systematic risk. Systematic risk is expressed by  $\beta$  and is calculated by the following formula:

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Where,  $r_{im}$  = Correlation coefficient between the returns of stock  $i$  and the return of the market index,

$\sigma_m$  = Standard deviation of returns of the market index, and

$\sigma_i$  = Standard deviation of returns of stock  $i$ .

Using regression method we may measure the systematic risk.

### **The form of the regression equation is as follows:**

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Where,  $n$  = Number of items,

$Y$  = Mean value of the company's return,

$X$  = Mean value of return of the market index,

$\alpha$  = Estimated return of the security when the market is stationary, and

$\beta$  = Change in the return of the individual security in response to unit change in the return of the market index.

### *Concept of Return:*

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Return can be defined as the actual income from a project as well as appreciation in the value of capital. Thus there are two components in return—the basic component or the periodic cash flows from the investment, either in the form of interest or dividends; and the change in the price of the asset, commonly called as the capital gain or loss.

The term yield is often used in connection to return, which refers to the income component in relation to some price for the asset. The total return of an asset for the holding period relates to all the cash flows received by an investor during any designated time period to the amount of money invested in the asset.

#### **It is measured as:**

Total Return = Cash payments received + Price change in assets over the period / Purchase price of the asset. In connection with return we use two terms—realized return and expected or predicted return. Realized return is the return that was earned by the firm, so it is historic. Expected or predicted return is the return the firm anticipates to earn from an asset over some future period.

## What are Alternative Investments?

The term "alternative investments" requires some explanation due to its lack of definition in popular media. The term alternative investments does not actually refer to any specific group of investments. It is only a descriptive term typically used to describe investments outside the

stock market. Alternative investments can also be available in the stock market, but are typically only available in a pooled form. The first investment on the list is a good example of that.

## 1. Real Estate

Real estate is probably the best known top alternative investment. You are probably already investing in real estate, but there are so many types of real estate, you may not know them all. If you own your home, then you are investing in real estate. While [I would not call it an investment](#), you certainly understand how real estate works. Real estate comes in all forms and different types, but real estate as an investment requires that you are not using it for personal use.

Real estate is a broad category that can refer to many different types of property, but for this example, let's limit it to residential, commercial, retail, and industrial. **Residential real estate** is involved in living space. It generally refers to single or multifamily homes. **Commercial real estate** refers to larger buildings that are involved in commerce or business purposes. This includes office buildings and retail, but also can include apartment complexes. **Industrial real estate** refers to space involved in manufacturing and production. Examples for industrial are: garages, warehouses, shipping docks, manufacturing facilities. Lastly, there are other forms of real estate which are mostly unknown to many investors like, timberland, farmland, raw land, fishing rights, airspace rights, mineral rights, and more.

## 2. Private Mortgages

If you own your own home, then you probably have a mortgage. This is essentially a loan from the bank to you in order for you to buy your home. This is one of the primary functions of banks. However, banks are not the only ones that can provide a mortgage. Anyone can do this. You could be the bank if you wanted. There are a large number of people and institutions who lend money backed by real estate and are not banks. What is even more interesting is that they typically charge higher interest rates than banks. Why? because they are filling a consumer need that banks are not providing. I'll give you an example.

Let's say you want to buy a piece of investment property and you can buy it for a big discount to market prices, but only if you can close on it in a week. A bank will almost never do this. It might take a bank 1-9 months (yes 9 months) to close on a mortgage. If you cannot get a mortgage from a bank, you will have to look elsewhere. Hence the need for alternative funding. There are a number of lenders across the country who lend backed by real estate. The rates that many of these investors require are also much higher. They might be 8-15% in addition to points. While you might scoff at the idea of paying 10% on a mortgage when the banks are paying around 4% today, if you can buy investment property for 20-30% below market price, you won't mind paying 10% to make this acquisition. Also once you acquire this property, there is no reason you could not refinance it with a traditional lender.

As for private mortgages as an alternative investment, many people enjoy being the bank. It can provide a stable income while backed by an asset that is easy to understand. The **best case scenario** for private mortgages as an investment: you get your rate of interest, then the principal is paid back at the end of the note. The **worst case scenario**: the investor doesn't pay you the interest and principal back, so you have to foreclose on the property. This would

mean your acquisition price of the property is what you loaned to the investor. In many cases, this can be an even better outcome than just loaning the money.

### 3. Tax Liens

Tax liens have long been one of my favorite top alternative investment types. If you are not familiar with what a tax lien is, you are not alone. I suspect that less than 5% of the population has ever heard of a tax lien as an investment. However, I'll bet 80-100% of homeowners would understand what a tax lien is once I explain it.

If you own your home, you pay property taxes to the local town or municipality. This is one of the requirements if you own real estate. These property taxes go to pay for the operations of your town. If you don't pay your taxes on time, the town penalizes you at a certain rate of interest. If you have even paid your property taxes late, you will know how this works. The town benefits from this interest as well, but this is not always simple.

Let's say that you live in a state like Florida where there is a large population of "snowbirds". People close to or in retirement that travel down to Florida for the winter, but live in a northern state for the summer. While most people pay their taxes on time, some people forget or don't get around to it until well past when the taxes are due. The town still gets the benefit of the late payment interest, but most of these towns need the money now to fund their operations. If enough people don't pay on time, then how is a town supposed to pay their employees?

The answer is that the county or municipality holds an auction to auction off these tax liens to investors. These investors pay off the lien in full in order to be able collect the interest payments. This is a win-win for both investors and the town. This is a great deal for the investor since they can receive quite a large rate of interest (18%+) for their capital. This is a great deal for the town because they get the funds necessary to keep the town running.

## 4. Private Company Stock

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While you may be familiar with investing in stocks with your brokerage account, you may not be aware that you can also invest in local private businesses. Many times businesses want to raise capital to expand their operations, or to expand their product lines. They need capital to do this. Some business owners want to sell their business to retire. This is where investors come in. If you want to invest in a business, it does not have to be listed on a publicly traded stock exchange. It can be for any business. Startups, venture capital, and private equity are just some forms of investing in private company stock.

Investing in private company stock can be a great way to productively use your capital. There are many of the same risks as with publicly traded companies, but it can also allow you to bring value to the business with your personal expertise. Some investors have been successful in a prior venture and like to invest in similar companies so they can bring their expertise and knowledge to these firms in an effort to grow their investment without being actively involved in the day to day operations.

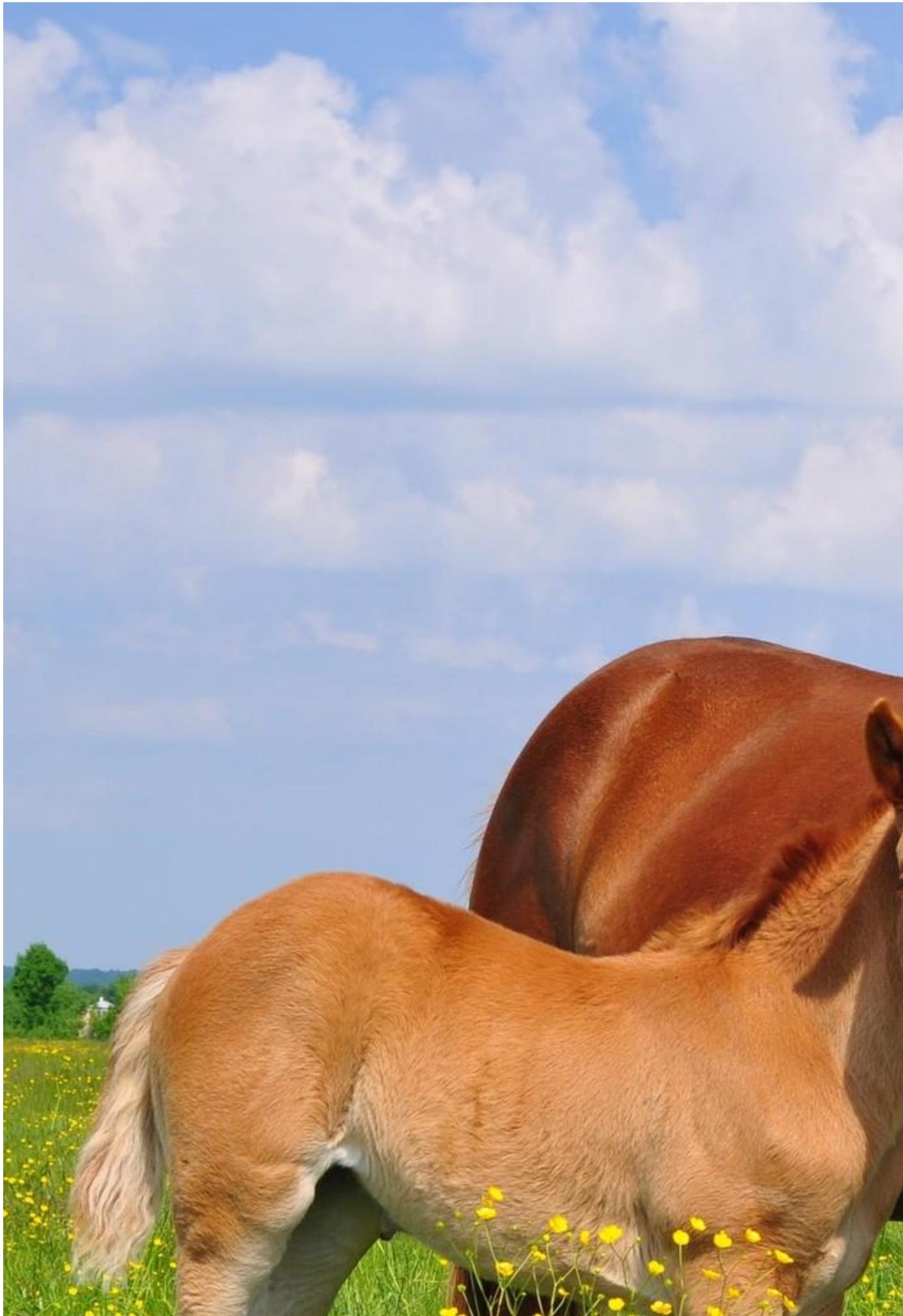
## 5. Structured Settlements

Have you heard of structured settlements before? You are in good company. Most people have never heard of structured settlements. In fact, even many large institutions are not familiar with this asset class. Structured settlement typically fall into 2 categories: Lottery winnings, and life insurance settlements.

Have you ever bought a lottery ticket? As long as this is not your investment strategy, you should be ok. The lottery is a tax on people who are bad at math. However, people do actually win the lottery. When they win, they are given a choice, either get paid out over 20 years or take a smaller amount to get paid all at once. Many people get paid up front. The way this happens is that the lottery offers to pay the smaller amount up front. However, investors also offer this winner an upfront amount (which may be greater than the lottery is offering) in exchange for the full stream of payout from the lottery itself. As a rational person, I would choose to take the larger amount over the smaller one.

Structured settlements as an investment are similar to bonds. The investor pays a lump sum amount up front, then gets paid back his interest and principal over time. Everyone gets what they want out of the transaction. While this can be a great investment strategy, it does require some understanding of how the process works, and it does take some time to complete.

## 6. Farmland



Farmland is technically real estate, but it is also quite different in that it is also a business. There has been a lot of interest in farmland in the past 10 years and this has caused a dramatic rise in the price paid for farmland. Investors are looking at farmland as an investment because it is a renewable resource and sustainable without running out of resources. If you invest in an oil well or a gold mine, eventually you run out of the resource. With farmland, you never run out of the ability to farm on that land (withstanding some obvious risks like flooding, drought, etc).

Investors in farmland can either farm it themselves or lease it out to someone else. Either way, the investor benefits from the cash flow generated from the land. A second benefit is that the land itself should be hedged against inflation. This means that if inflation rises 2%, the price of the land should also rise 2%. The value of your capital will not lose value compared to inflation. In one of my prior posts, I show a [chart made from Robert Shiller's data](#) that shows how inflation treats real estate. Jim Rogers, a famous hedge fund manager, has made many claims that farmers will be the next millionaires due to the need of food and value of farmland in the future. Will this be you?

## 7. Equipment Leasing

Equipment leasing is a small but interesting investment field. I assume you have been to the dentist. Well in the dentist's office are a number of large and expensive pieces of equipment. Most dentists cannot afford to buy this equipment outright, especially when they graduate from dental school with large school loans. They are able to get this necessary equipment by leasing it from equipment leasers. These people own the equipment and lease it to the dentist. If the dentist doesn't pay the lease, they can come and repossess the equipment.

If you are considering this as an investment, it would make sense to know the equipment and the industry that uses it before you invest. Otherwise, you might get stuck with a piece of equipment that is useless to you. The benefits can be great since the yields on equipment leasing can be quite high, but just like any other investment, invest in what you know.

## 8. Oil and Gas LPs

Most people have heard of Exxon, Conoco, Shell, and Chevron, but they have never heard of Joe Smith the oil wildcatter. While Joe is not a real person, many individuals drill for oil personally rather than in a large multinational conglomerate. Investors like Joe Smith don't always have money to build and maintain their oil wells, so they have to raise capital. Frequently this capital comes in the form of LPs to private investors.

Investors in oil and gas LPs have the risk of the well not hitting oil, but the benefits to them are the potential that it does hit oil as well as some decent tax benefits regardless of the outcome. This can be quite an investment strategy for the right person. These types of investment can be available through broker-dealers as well as directly from the GP.

## 9. Artwork and Collectibles

Whether or not you are an art lover, you probably have seen the news of the recent auctions held at Christie's for paintings valued at almost \$180 million for just one painting or others valued at \$40, \$50, or \$60 million each. Right now there is a [boom in artwork by the ultra wealthy](#). This may have something to do with all the money that is being made in certain

sectors such as finance. However, you don't need to be an art critic or a uber-wealthy billionaire to invest in artwork or collectibles.

Artwork and collectibles include: paintings, sculpture, pottery, coins, wine, stamps, signatures, and sports or historical memorabilia. While most of us will not be bidding at the next Christie's auction for a Van Gogh painting, there are a number of artwork or collectible pieces that are closer to your price range. There have even been a few art or wine funds created to invest in multiple pieces without taking a large risk on just one. Artwork or collectibles as an investment has a dual purpose. It can certainly be seen as an investment, but it also has the benefit of your personal enjoyment of viewing this piece. As the saying goes, beauty is in the eye of the beholder. Invest in something you enjoy.

## 10. Timberland



Timberland is also real estate related, but it has some unique characteristics that are very appealing to investors. Timberland is basically a plot of land that is growing trees. That is it. Simple right? Well not really. Owning land and harvesting trees off of it can produce some reasonable income for investors, but there are many other components to this investment. Timberland is a renewable resource. A well-maintained forest is an investment that keeps on giving. While you can cut trees each year to produce income, if you don't cut them, they will keep growing, making the wood even more valuable. This produces a predictable growth rate if they are bought at the right price. The land also appreciates and there can be some preferential tax benefits as well.

One last benefit for investors is that timberland has a very low correlation to other investments. In the early 2000s, timberland had a correlation to stocks and bonds close to zero. That is hard to accomplish. However since the institutions have become interested in

this as an asset, the correlations have become more aligned with other traditional investments. The benefits are still there though. If you invest in timberland and wood prices drop, you don't have to cut trees, you can let them continue to grow on the stump until prices become more favorable. For these reasons timberland also makes my top 10 list.

### How can you invest in these great alternative investments?

Some of these investments are easy to do on your own, and some are not. As a wealth management firm which specializes in this area, we are in a good position to help you find investments that meet your needs with both the traditional and alternative investments. What is even more important is that we are skilled in assisting you in using your retirement account (IRA or 401k) to invest in these alternative investments, if that is what you are looking for. If you want to learn more about our wealth management services, [you can click here](#) or you can [contact us](#).

If you are interested in these alternative investments, but still want to learn more, you can [sign up for our private email list](#) to receive information from us each week about topics such as: alternative investments, [self directed IRAs](#), wealth management, wall street wisdom, inflation / deflation, gold, options, and more.

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For more information you can visit [innovativewealth.com](http://innovativewealth.com)

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I think this is a great article - i particularly like the intro - which clearly defines alternative as anything which is not the stockmarket. Many potential clients say to me "if its not regulated i'm not interested".... I would say to them Open Your Mind and Keep Educating Yourself. We all seem to have a one-sided view of personal finance, whichever side that is, and there are many places to put your hard-earned money. Regulated products are not automatically lower risk, or better return, and due diligence as always is key. Thanks for a good read.

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Investing in private company stock can be a great way to productively

## Risk & Return: Concept of Risk, Component & Measurement of Risk



AKTtheintactone

10 months ago

$$\bar{R}_p = \sum_{j=1}^m w_j R_j \quad \dots(5.5)$$

where  $\bar{R}$  = Expected return of a portfolio

$\bar{P}$  = The proportion, or weights of total funds invested in security j

$R_j$  = The expected return for security j

$m$  = The total number of different securities in the portfolio

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So far our analysis of risk-return was confined to single assets held in isolation. In real world, we rarely find investors putting their entire wealth into single asset or investment. Instead they build portfolio of investments and hence risk-return analysis is extended in context of portfolio.

A portfolio is composed of two or more securities. Each portfolio has risk-return characteristics of its own. A portfolio comprising securities that yield a maximum return for given level of risk or minimum risk for given level of return is termed as 'efficient portfolio'. In their Endeavour to strike a golden mean between risk and return the traditional portfolio managers diversified funds over securities of large number of companies of different industry groups.

However, this was done on intuitive basis with no knowledge of the magnitude of risk reduction gained. Since the 1950s, however, a systematic body of knowledge has been built up which quantifies the expected return and riskiness of the portfolio. These studies have collectively come to be known as 'portfolio theory'.

A portfolio theory provides a normative approach to investors to make decisions to invest their wealth in assets or securities under risk. The theory is based on the assumption that investors are risk averse. Portfolio theory originally developed by Harry Markowitz states that portfolio risk, unlike portfolio return, is more than a simple aggregation of the risk, unlike portfolio return, is more than a simple aggregation of the risks of individual assets.

This is dependent upon the interplay between the returns on assets comprising the portfolio. Another assumption of the portfolio theory is that the returns of assets are normally distributed which means that the mean (expected value) and variance analysis is the foundation of the portfolio.

### I. Portfolio Return:

The expected return of a portfolio represents weighted average of the expected returns on the securities comprising that portfolio with weights being the proportion of total funds invested in each security (the total of weights must be 100).

**The following formula can be used to determine expected return of a portfolio:**

$$\bar{R}_p = \sum_{j=1}^m W_j R_j \quad \dots(5.5)$$

where  $\bar{R}$  = Expected return of a portfolio

$\bar{P}$  = The proportion, or weights of total funds invested in security j

$R_j$  = The expected return for security j

$m$  = The total number of different securities in the portfolio

**Applying formula (5.5) to possible returns for two securities with funds equally invested in a portfolio, we can find the expected return of the portfolio as below:**

	Security X	Security Y
Expected Return, $R_j$	15.0%	12.6%
Standard deviation, $\sigma_j$	10.7	1.5

The expected return of the portfolio is =  $(.5)15.0\% + (.5)12.6 = 13.8\%$

## II. Portfolio Risk:

Unlike the expected return on a portfolio which is simply the weighted average of the expected returns on the individual assets in the portfolio, the portfolio risk,  $\sigma_p$  is not the simple, weighted average of the standard deviations of the individual assets in the portfolios.

It is for this fact that consideration of a weighted average of individual security deviations amounts to ignoring the relationship, or covariance that exists between the returns on securities. In fact, the overall risk of the portfolio includes the interactive risk of asset in relation to the others, measured by the covariance of returns. Covariance is a statistical measure of the degree to which two variables (securities' returns) move together. Thus, covariance depends on the correlation between returns on the securities in the portfolio.

**Covariance between two securities is calculated as below:**

1. Find the expected returns on securities.
2. Find the deviation of possible returns from the expected return for each security
3. Find the sum of the product of each deviation of returns of two securities and respective probability.

**The formula for determining the covariance of returns of two securities is:**

$$COVAB = \sum^n [R_A - E(R_A)][R_B - E(R_B)] \times P_i \quad \dots (5.6)$$

where COVAB = The covariance of returns on securities A and B

$R_A$  and  $R_B$  = Returns on securities A and B

$E(R_A)$  and  $E(R_B)$  = Expected returns of A and B

$P_i$  = Probability of occurrence of the state of economy

**Let us explain the computation of covariance of returns on two securities with the help of the following illustration:**

**Table 5.3.**  
**Covariance of Returns on Securities A and B**

State of Economy	Probability	Returns		Deviations from Expected Returns		Product of deviation and probability
		A	B	A	B	
Highly Buoyant	0.1	-2	10	-10	5	-50
Buoyant	0.2	8	-5	6	-10	-120
Normal	0.3	6	4	4	-2	-2.4
Recession	0.2	4	10	0	6	0.0
Depression	0.2	-3	10	-8	12	-19.2
		$E(R_A) 3.8\%$		$E(R_B) 5.2\%$		Covar = -38.6

So far as the nature of relationship between the returns of securities A and B is concerned, there may be three possibilities, viz., positive covariance, negative covariance and zero covariance. Positive covariance shows that on an average the two variables move together.

A's and B's returns could be above their average returns at the same time or they could be below their average returns at the same time. This signifies that as the proportion of high return and high risk assets is increased, higher returns on portfolio come with higher risk.

Negative covariance suggests that, on an average, the two variables move in opposite direction. It means A's returns could be above its average returns while B's return could be below its average returns and vice-versa. This implies that it is possible to combine the two securities A and B in a manner that will eliminate all risk.

Zero covariance means that the two variables do not move together either in positive or negative direction. In other words, returns on the two securities are not related at all. Such situation does not exist in real world. Covariance may be non-zero due to randomness and negative and positive terms may not cancel each other.

In the above example, covariance between returns on A and B is negative i.e., -38.6. This suggests that the two returns are negatively related.

The above discussion leads us to conclude that the riskiness of a portfolio depends much more on the paired security covariance than on the riskiness (standard deviations) of the separate security holdings. This means that a combination of individually risky securities could

still comprise a moderate-to-low-risk portfolio as long as securities do not move in lock step with each other. In brief, low covariance's lead to low portfolio risk.

### III. Diversification:

Diversification is venerable rule of investment which suggests "Don't put all your eggs in one basket", spreading risk across a number of securities.

Diversification may take the form of unit, industry, maturity, geography, type of security and management. Through diversification of investments, an investor can reduce investment risks.

Investment of funds, say, Rs. 1 lakh evenly among as many as 20 different securities is more diversified than if the same amount is deployed evenly across 7 securities. This sort of security diversification is naive in the sense that it does not factor in the covariance between security returns.

The portfolio comprising 20 securities could represent stocks of one industry only and have returns which are positively correlated and high portfolio returns variability. On the other hand, the 7-stock portfolio might represent a number of different industries where returns might show low correlation and, hence, low portfolio returns variability.

Meaningful diversification is one which involves holding of stocks of more than one industry so that risks of losses occurring in one industry are counterbalanced by gains from the other industry. Investing in global financial markets can achieve greater diversification than investing in securities from a single country. This is for the fact that the economic cycles of different countries hardly synchronize and as such a weak economy in one country may be offset by a strong economy in another.

Fig. 5.2 portrays meaningful diversification. It may be noted from the figure that the returns overtime for Security X are cyclical in that they move in tandem with the economic fluctuations. In case of Security Y returns are moderately counter cyclical. Thus, the returns for these two securities are negatively correlated.

If equal amounts are invested in both securities, the dispersion of returns, up, on the portfolio of investments will be less because some of each individual security's variability is offsetting. Thus, the gains of diversification of investment portfolio, in the form of risk minimization, can be derived if the securities are not perfectly and positively correlated.

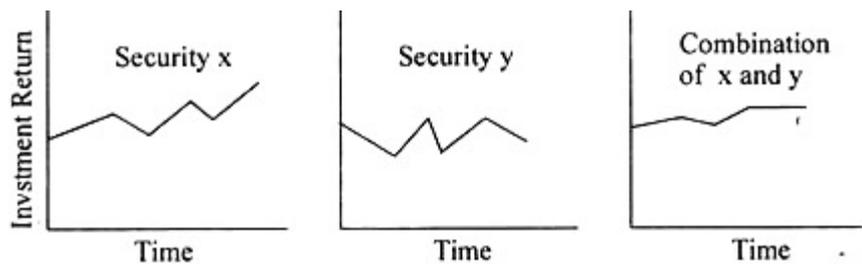


Fig. 5.2.

#### IV. Systematic and Unsystematic Risk:

Thus, the variance of returns on a portfolio moving in inverse direction can minimize portfolio risk. However, it is not possible to reduce portfolio risk to zero by increasing the number of securities in the portfolio. According to the research studies, when we begin with a single stock, the risk of the portfolio is the standard deviation of that one stock.

As the number of securities selected randomly held in the portfolio increase, the total risk of the portfolio is reduced, though at a decreasing rate. Thus, degree of portfolio risk can be reduced to a large extent with a relatively moderate amount of diversification, say 15-20 randomly selected securities in equal-rupee amounts.

Portfolio risk comprises systematic risk and unsystematic risk. Systematic risk is also known as non-diversifiable risk which arises because of the forces that affect the overall market, such, as changes in the nation's economy, fiscal policy of the Government, monetary policy of the Central bank, change in the world energy situation etc.

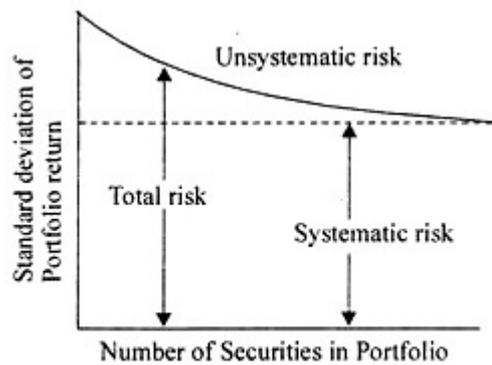
Such types of risks affect securities overall and hence, cannot be diversified away. Even if an investor holds well diversified portfolio, he is exposed to this type of risk which is affecting the overall market. This is why, non-diversifiable or unsystematic risk is also termed as market risk which remains after diversification.

Another risk component is unsystematic risk. It is also known as diversifiable risk caused by such random events as law suits, strikes, successful and unsuccessful marketing programmes, winning or losing a major contract and other events that are unique to a particular firm.

Unsystematic risk can be eliminated through diversification because these events are random, their effects on individual securities in a portfolio cancel out each other. Thus, not all of the risks involved in holding a security are relevant because part of the risk can be diversified away. What is relevant for investors is systematic risk which is unavoidable and they would like to be compensated for bearing it. However, they should not expect the market to provide any extra

compensation for bearing the avoidable risk, as is contended in the Capital Asset Pricing Model.

Figure 5.3 displays two components of portfolio risk and their relationship to portfolio size.



**Fig. 5.3. Relationship of Total, Systematic and Unsystematic Risk to Portfolio size**

Advertisements

Unit –2

broad terms, four main investment objectives cover how you accomplish most financial goals. These investment objectives are important because certain products and strategies work for one objective, but may produce poor results for another objective. It is quite likely you will use several of these investment objectives simultaneously to accomplish different objectives without any conflict. Let's examine these objectives and see how they differ.

### ***Capital Appreciation***

Capital appreciation is concerned with long-term growth. This strategy is most familiar in retirement plans where investments work for many years inside a qualified plan. However, investing for capital appreciation is not limited to qualified retirement accounts. If this is your objective, you are planning to hold the stocks for many years. You are content to let them grow within your portfolio, reinvesting dividends to purchase more shares. A typical strategy employs making regular purchases. You are not very concerned with day-to-day fluctuations, but keep a close eye on the fundamentals of the company for changes that could affect long-term growth.

### ***Current Income***

If your objective is current income, you are most likely interested in stocks that pay a consistent and high dividend. You may also include some top-quality real estate investment trusts (REITs) and highly-rated bonds. All of these products produce current income on a regular basis. Many people who pursue a strategy of current income are retired and use the income for living expenses. Other people take advantage of a lump sum of capital to create an income stream that never touches the principal, yet provides cash for certain current needs (college, for example).

### ***Capital Preservation***

Capital preservation is a strategy you often associate with elderly people who want to make sure they don't outlive their money. Retired or nearly retired people often use this strategy to hold on to the investment. For this investor, safety is extremely important – even to the extent of giving up return for security. The logic for this safety is clear. If they lose their money through foolish investment and are retired, it is unlikely they will get a chance to replace it. Investors who use capital preservation tend to invest in bank CDs, U.S. Treasury issues and savings accounts.

### ***Speculation***

The speculator is not a true investor, but a trader who enjoys jumping into and out of stocks as if they were hot shoes. Speculators or traders are interested in quick profits and use advanced trading techniques like shorting stocks, trading on the margin, options and other special equipment. They have no love for the companies they trade and, in fact may not know much about them at all other than the stock is volatile and ripe for a quick profit. Speculators keep their eyes open for a quick profit situation and hope to trade in and out without much thought about the underlying companies. Many people try speculating in the stock market with the misguided goal of getting rich. It doesn't work that way. If you want to try your hand, make sure you are using money you can afford to lose. It's easy to get addicted, so make sure you understand the real possibilities of losing your investment.

The secondary objectives are tax minimization and Marketability or liquidity.

### ***Tax Minimization:***

An investor may pursue certain investments in order to adopt tax minimization as part of his or her investment strategy. A highly-paid executive, for example, may want to seek investments with favorable tax treatment in order to lessen his or her overall income tax burden. Making

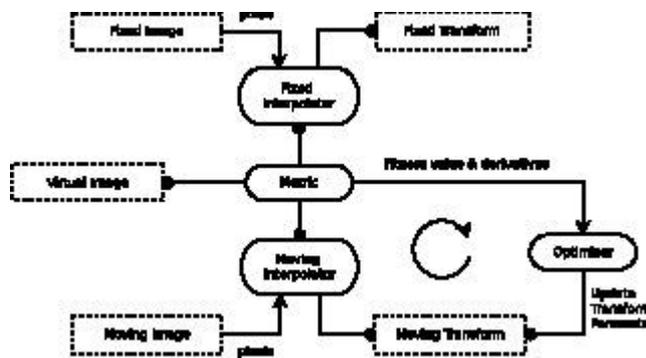
contributions to an IRA or other tax-sheltered retirement plan can be an effective tax minimization strategy.

**Marketability/Liquidity:**

Many of the investments we have discussed are reasonably illiquid, which means they cannot be immediately sold and easily converted into cash. Achieving a degree of liquidity, however, requires the sacrifice of a certain level of income or potential for capital gains.

Common stock is often considered the most liquid of investments, since it can usually be sold within a day or two of the decision to sell. Bonds can also be fairly marketable, but some bonds are highly illiquid, or non-tradable, possessing a fixed term. Similarly, money market instruments may only be redeemable at the precise date at which the fixed term ends. If an investor seeks liquidity, money market assets and non-tradable bonds aren't likely to be held in his or her portfolio.

**DIFFERENCE BETWEEN FIXED INCOME AND VARIABLE INCOME. WHAT IS BEST FOR YOU?**



Do you know the difference between fixed income and variable income?

That is, fixed income and variable income investment ... we get a little lost without knowing very well what each of these groups means and what the difference between fixed income and variable income.

But the proposal today is to present to you, in an easy and brief way, what each one represents and, above all, to show the differences between them. So there's no doubt about it!

## WHAT, AFTER ALL, IS THE DIFFERENCE BETWEEN FIXED INCOME AND VARIABLE INCOME?



### FIXED INCOME

He knows that investment that already presents the form of calculation of the profitability at the moment of the application. Or even, right away, do you know what the pay will be? This one is part of the fixed income group.

These are admittedly less risky investments. Therefore, they are more suitable for investors with a conservative profile.

Want to know some examples?

Let's go there: Savings Account, Bank Deposit Certificate (CDB), [Public Securities](#), [Debentures](#), [Agribusiness Credit](#) Letters (LCA), among others, are fixed income investments.

There are two fixed income groups:

Pre-Fixed Investments: the investor knows from the outset the profitability of the security.

Post-Fixed Investments: here it is not possible to know the profitability of the security, but rather the way of calculating profitability. The bonds in this group are always tied to some index that may or may not suffer oscillations, such as the Selic rate.

## VARIABLE INCOME

Now that you know what fixed income has become easier to know what is variable income, have not you? It will be easy to see the difference between fixed income and variable income. So let's variable income.

It is that type of investment that both the remuneration and the way of calculating the income are not known at the time of application.

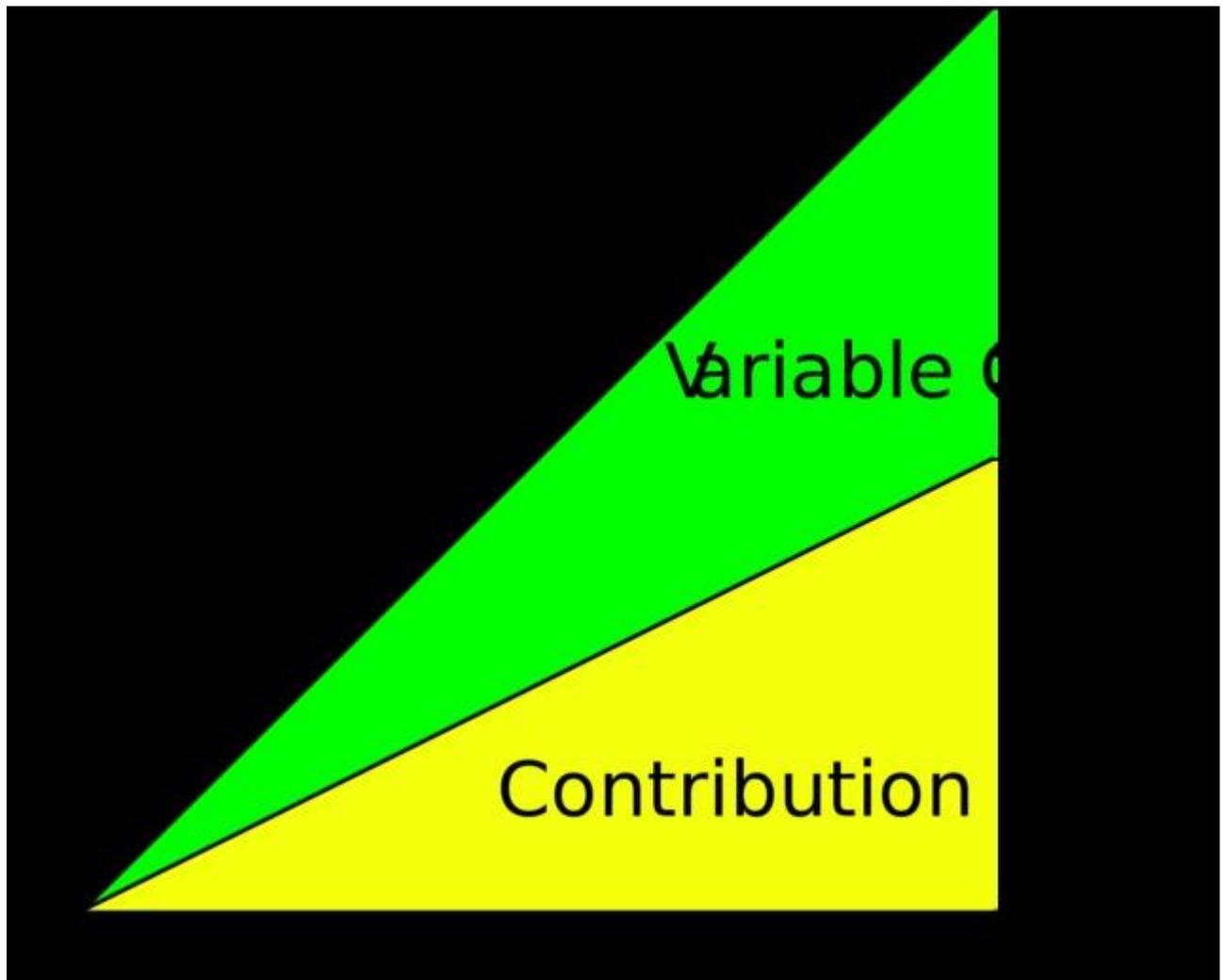
They are investments considered more risky. Therefore they are usually recommended for investors with dynamic profile.

The best-known investment in the variable-income universe has its name and surname: stock market.

The actions have prices that constantly vary depending on factors related to the world of economics and politics.

But there are other ways of investing in variable income, such as investing in Foreign Exchange, Derivatives, Equity Funds, etc.

## FIXED INCOME X VARIABLE INCOME



As we have seen, many of the investments known in the market fall into one of two categories: fixed income and variable income.

Besides the differences present in the definitions of both, we can still emphasize:

- Gains or losses on initial capital;
- In fixed income the investor does not lose the capital that is applied initially, even if the interest is not a great thing;
- In variable income, if the interest is negative, the investor may lose part of the money invested initially.

#### YIELD

Even with more risks, variable income investment allows a better return than fixed income.

Of course, for this, one must know how to invest with discretion. In addition, it should be borne in mind that, in general, this is an investment that must be regarded as long-term.

## DIVERSIFY

As we always speak, there is always an adequate investment for every need.

Diversifying is the secret. Therefore, fixed or variable income are always options and should never be on opposing sides.

They can always be around, contributing to the best profitability. This just depends on your life planning and of course financial.

## [TRADING](#) [TRADING STRATEGIES](#)

### Efficient Market Hypothesis (EMH)

By [LUCAS DOWNEY](#)

Reviewed By [GORDON SCOTT](#)

Updated Feb 5, 2020

#### **What Is the Efficient Market Hypothesis (EMH)?**

The efficient market hypothesis (EMH), alternatively known as the efficient market theory, is a hypothesis that states that share prices reflect all information and consistent alpha generation is impossible. According to the EMH, stocks always trade at their fair value on exchanges, making it impossible for investors to purchase undervalued stocks or sell stocks for inflated prices. Therefore, it should be impossible to outperform the overall market through expert stock selection or [market timing](#), and the only way an investor can obtain higher returns is by purchasing riskier investments.

#### **KEY TAKEAWAYS**

- The efficient market hypothesis (EMH) or theory states that share prices reflect all information.
- The EMH hypothesizes that stocks trade at their fair market value on exchanges.
- Proponents of EMH posit that investors benefit from investing in a low-cost, passive portfolio.
- Opponents of EMH believe that it is possible to beat the market and that stocks can deviate from their fair market values.

1:49

*Efficient Market Hypothesis*

#### **Understanding the Efficient Market Hypothesis**

Although it is a cornerstone of modern financial theory, the EMH is highly controversial and often disputed. Believers argue it is pointless to search for undervalued stocks or to try to predict trends in the market through either fundamental or [technical analysis](#).

Theoretically, neither technical nor fundamental analysis can produce risk-adjusted excess returns (alpha) consistently, and only inside information can result in outsized risk-adjusted returns.

**\$342,850**

*The January 10, 2020 share price of the most expensive stock in the world: Berkshire Hathaway Inc. Class A (BRK.A).*

While academics point to a large body of evidence in support of EMH, an equal amount of dissension also exists. For example, investors such as Warren Buffett have consistently beaten the market over long periods, which by definition is impossible according to the EMH. Detractors of the EMH also point to events such as the 1987 stock market crash, when the Dow Jones Industrial Average (DJIA) fell by over 20 percent in a single day, as evidence that stock prices can seriously deviate from their fair values.

### **Special Considerations**

Proponents of the Efficient Market Hypothesis conclude that, because of the randomness of the market, investors could do better by investing in a low-cost, passive portfolio.

Data compiled by Morningstar Inc., in its June 2019 Active/Passive Barometer study, supports the EMH. Morningstar compared active managers' returns in all categories against a composite made of related index funds and [exchange-traded funds](#) (ETFs). The study found that over a 10 year period beginning June 2009, only 23% of active managers were able to outperform their passive peers. Better success rates were found in foreign equity funds and bond funds. Lower success rates were found in US large cap funds. In general, investors have fared better by investing in low-cost index funds or ETFs.

While a percentage of active managers do outperform passive funds at some point, the challenge for investors is being able to identify which ones will do so over the long-term. Less than 25 percent of the top-performing active managers can consistently outperform their passive manager counterparts over time.

## [INVESTING](#) [FUNDAMENTAL ANALYSIS](#)

### **Fundamental Analysis**

By [TROY SEGAL](#)

Reviewed By [GORDON SCOTT](#)

Updated Mar 16, 2020

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- What Is Fundamental Analysis?
- Understanding FA
- Investing & Fundamental Analysis
- Quant. vs. Qual. Analysis
- The Concept of Intrinsic Value
- Criticisms
- Examples of Fundamental Analysis

## What Is Fundamental Analysis?

Fundamental analysis (FA) is a method of [measuring a security's intrinsic value](#) by examining related economic and financial factors. Fundamental analysts study anything that can affect the security's value, from macroeconomic factors such as the state of the economy and industry conditions to microeconomic factors like the effectiveness of the company's management.

The end goal is to arrive at a number that an investor can compare with a security's current price in order to see whether the security is undervalued or overvalued.

This method of stock analysis is considered to be in contrast to [technical analysis](#), which forecasts the direction of prices through an analysis of historical market data such as price and volume.

## KEY TAKEAWAYS

- Fundamental analysis is a method of determining a stock's real or "fair market" value.
- Fundamental analysts search for stocks that are currently trading at prices that are higher or lower than their real value.
- If the fair market value is higher than the market price, the stock is deemed to be undervalued and a buy recommendation is given.
- In contrast, technical analysts ignore the fundamentals in favor of studying the historical price trends of the stock.

1:20

*Understanding Fundamental Vs. Technical Analysis*

## Understanding Fundamental Analysis

All stock analysis tries to determine whether a security is correctly valued within the broader market. Fundamental analysis is usually done from a macro to micro perspective in order to identify securities that are not correctly priced by the market.

Analysts typically study, in order, the overall state of the economy and then the strength of the specific industry before concentrating on individual company performance to arrive at a fair market value for the stock.

Fundamental analysis uses public data to evaluate the value of a stock or any other type of security. For example, an investor can perform fundamental analysis on a bond's value by looking at economic factors such as interest rates and the overall state of the economy, then studying information about the bond issuer, such as potential changes in its [credit rating](#).

For stocks, fundamental analysis uses revenues, earnings, future growth, [return on equity](#), profit margins, and other data to determine a company's underlying value and potential for future growth. All of this data is available in a company's financial statements (more on that below).

Fundamental analysis is used most often for stocks, but it is useful for evaluating any security, from a bond to a derivative. If you consider the fundamentals, from the broader economy to the company details, you are doing fundamental analysis.

## [INVESTING](#) [FUNDAMENTAL ANALYSIS](#)

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*Understanding Fundamental Vs. Technical Analysis*

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fundamentals, from the broader economy to the company details, you are doing fundamental analysis.

### **Investing and Fundamental Analysis**

An analyst uses works to create a model for determining the estimated value of a company's share price based on publicly available data. This value is only an estimate, the analyst's educated opinion, of what the company's share price should be worth compared to the currently trading market price. Some analysts may refer to their estimated price as the company's intrinsic value.

If an analyst calculates that the stock's value should be significantly higher than the stock's current market price, they may publish a [buy](#) or [overweight](#) rating for the stock. This acts as a recommendation to investors who follow that analyst. If the analyst calculates a lower intrinsic value than the current market price, the stock is considered overvalued and a [sell](#) or [underweight](#) recommendation is issued.

Investors who follow these recommendations will expect that they can buy stocks with favorable recommendations because such stocks should have a higher probability of rising over time. Likewise stocks with unfavorable ratings are expected to have a higher probability of falling in price. Such stocks are candidates for being removed from existing portfolios or added as "short positions.

This method of stock analysis is considered to be the opposite of [technical analysis](#), which forecasts the direction of prices through an analysis of historical market data such as price and volume.

### **Quantitative and Qualitative Fundamental Analysis**

The problem with defining the word fundamentals is that it can cover anything related to the economic well-being of a company. They obviously include numbers like revenue and profit, but they can also include anything from a company's market share to the quality of its management.

The various fundamental factors can be grouped into two categories: quantitative and qualitative. The financial meaning of these terms isn't much different from their standard definitions. Here is how a dictionary defines the terms:

- Quantitative – capable of being measured or expressed in numerical terms.
- Qualitative – related to or based on the quality or character of something, often as opposed to its size or quantity.

In this context, quantitative fundamentals are hard numbers. They are the measurable characteristics of a business. That's why the biggest source of

quantitative data is financial statements. Revenue, profit, assets, and more can be measured with great precision.

The qualitative fundamentals are less tangible. They might include the quality of a company's key executives, its brand-name recognition, [patents](#), and [proprietary technology](#).

Neither qualitative nor quantitative analysis is inherently better. Many analysts consider them together.

### **Qualitative Fundamentals to Consider**

There are four key fundamentals that analysts always consider when regarding a company. All are qualitative rather than quantitative. They include:

- The [business model](#): What exactly does the company do? This isn't as straightforward as it seems. If a company's business model is based on selling fast-food chicken, is it making its money that way? Or is it just coasting on royalty and franchise fees?
- **Competitive advantage**: A company's long-term success is driven largely by its ability to maintain a competitive advantage—and keep it. Powerful competitive advantages, such as Coca Cola's brand name and Microsoft's domination of the personal computer operating system, create a [moat](#) around a business allowing it to keep competitors at bay and enjoy growth and profits. When a company can achieve a competitive advantage, its shareholders can be well rewarded for decades.
- **Management**: Some believe that management is *the* most important criterion for investing in a company. It makes sense: Even the best business model is doomed if the leaders of the company fail to properly execute the plan. While it's hard for retail investors to meet and truly evaluate managers, you can look at the corporate website and check the resumes of the top brass and the board members. How well did they perform in prior jobs? Have they been unloading a lot of their stock shares lately?
- **Corporate Governance**: Corporate governance describes the policies in place within an organization denoting the relationships and responsibilities between management, directors and [stakeholders](#). These policies are defined and determined in the [company charter](#) and its bylaws, along with corporate laws and regulations. You want to do business with a company that is run ethically, fairly, transparently, and efficiently. Particularly note whether management respects shareholder rights and shareholder interests. Make sure their communications to shareholders are transparent, clear and understandable. If you don't get it, it's probably because they don't want you to.

It's also important to consider a company's industry: customer base, [market share](#) among firms, industry-wide growth, competition, regulation, and

business cycles. Learning about how the industry works will give an investor a deeper understanding of a company's financial health.

### **Quantitative Fundamentals to Consider**

Financial statements are the medium by which a company discloses information concerning its financial performance. Followers of fundamental analysis use quantitative information gleaned from financial statements to make investment decisions. The three most important financial statements are [income statements](#), [balance sheets](#), and [cash flow statements](#).

#### *The Balance Sheet*

The balance sheet represents a record of a company's assets, liabilities and equity at a particular point in time. The balance sheet is named by the fact that a business's financial structure balances in the following manner:

### **Assets = Liabilities + Shareholders' Equity**

Assets represent the resources that the business owns or controls at a given point in time. This includes items such as cash, inventory, machinery and buildings. The other side of the equation represents the total value of the financing the company has used to acquire those assets. Financing comes as a result of [liabilities](#) or [equity](#). Liabilities represent debt (which of course must be paid back), while equity represents the total value of money that the owners have contributed to the business - including retained earnings, which is the profit made in previous years.

#### *The Income Statement*

While the balance sheet takes a snapshot approach in examining a business, the income statement measures a company's performance over a specific time frame. Technically, you could have a balance sheet for a month or even a day, but you'll only see public companies report quarterly and annually.

The income statement presents information about revenues, expenses and profit that was generated as a result of the business' operations for that period.

#### *Statement of Cash Flows*

The statement of cash flows represents a record of a business' cash inflows and outflows over a period of time. Typically, a statement of cash flows focuses on the following cash-related activities:

- Cash from investing (CFI): Cash used for investing in assets, as well as the proceeds from the sale of other businesses, equipment or long-term assets

- Cash from financing (CFF): Cash paid or received from the issuing and borrowing of funds
- [Operating Cash Flow](#) (OCF): Cash generated from day-to-day business operations

The cash flow statement is important because it's very difficult for a business to manipulate its cash situation. There is plenty that aggressive accountants can do to manipulate earnings, but it's tough to fake cash in the bank. For this reason, some investors use the cash flow statement as a more conservative measure of a company's performance.

### **The Concept of Intrinsic Value**

One of the primary assumptions of fundamental analysis is that the currently price from the stock market often does not fully reflect a value of the company supported by the publicly available data. A second assumption is that the value reflected from the company's fundamental data is more likely to be closer to a true value of the stock.

Analysts often refer to this hypothetical true value as the intrinsic value. However, it should be noted that this usage of the phrase intrinsic value means something different in stock valuation than what it means in other contexts such as options trading. Option pricing uses a standard calculation for intrinsic value, however analysts use a various complex models to arrive at their intrinsic value for a stock. There is not a single, generally accepted formula for arriving at the intrinsic value of a stock.

For example, say that a company's stock was trading at \$20, and after extensive research on the company, an analyst determines that it ought to be worth \$24. Another analyst does equal research but determines that it ought to be worth \$26. Many investors will consider the average of such estimates and assume that intrinsic value of the stock may be near \$25. Often investors consider these estimates highly relevant information because they want to buy stocks that are trading at prices significantly below these intrinsic values.

This leads to a third major assumption of fundamental analysis: In the long run, the stock market will reflect the fundamentals. The problem is, nobody knows how long "the long run" really is. It could be days or years.

This is what fundamental analysis is all about. By focusing on a particular business, an investor can estimate the intrinsic value of a firm and find opportunities to buy at a discount. The investment will pay off when the market catches up to the fundamentals.



One of the most famous and successful fundamental analysts is the so-called "[Oracle of Omaha](#)," [Warren Buffett](#), who champions the technique in picking stocks.

### **Criticisms of Fundamental Analysis**

The biggest criticisms of fundamental analysis come primarily from two groups: proponents of [technical analysis](#) and believers of the [efficient market hypothesis](#).

### **Technical Analysis**

Technical analysis is the other primary form of security analysis. Put simply, technical analysts base their investments (or, more precisely, their trades) solely on the price and volume movements of stocks. Using charts and other tools, they trade on momentum and ignore the fundamentals.

One of the basic tenets of technical analysis is that the market discounts everything. All news about a company is already priced into the stock. Therefore, the stock's price movements give more insight than the underlying fundamentals of the business itself.

### **The Efficient Market Hypothesis**

Followers of the efficient market hypothesis, however, are usually in disagreement with both fundamental and technical analysts.

The efficient market hypothesis contends that it is essentially impossible to beat the market through either fundamental or technical analysis. Since the market efficiently prices all stocks on an ongoing basis, any opportunities for excess returns are almost immediately whittled away by the market's many participants, making it impossible for anyone to meaningfully outperform the market over the long term.

### **Examples of Fundamental Analysis**

Take the Coca-Cola Company, for example. When examining its stock, an analyst must look at the stock's annual dividend payout, earnings per share, P/E ratio, and many other quantitative factors. However, no analysis of Coca-Cola is complete without taking into account its brand recognition. Anybody can start a company that sells sugar and water, but few companies are known to billions of people. It's tough to put a finger on exactly what the Coke brand is worth, but you can be sure that it's an essential ingredient contributing to the company's ongoing success

Unit—3

Advantages of Portfolio Management: 7 Ways to Achieve Life Goals



admin admin



A portfolio is, simply put, a collection of all your investments. This includes different types of assets such as equity shares, fixed deposits, mutual funds, life insurance, cash, and non-financial assets such as gold, real estate etc. Grouping all the assets together enables you to easily assess your investments and make informed decisions.

To ensure that your investments are performing as expected and that they continue to be aligned with your goals, it is essential to manage your portfolio. Managing your portfolio means:

- Checking the performance of your investments regularly
- Exiting non-performing assets that are no longer aligned to your goals
- Making fresh investments that suit your life goals

The goal of portfolio management is to maximize your returns and minimize your risk.

Managing your portfolio effectively is the best way of growing your wealth. You can use your portfolio to plan for your life goals such as retirement, child's education expenses, wedding expenses etc.

Portfolio management helps you in more ways than one. Here are six:

### **1. Make the right investment choices:**

Often, people accumulate assets or make investments in an ad hoc or haphazard manner. A portfolio gives you a holistic view of all your assets and enables you to see the gaps in your investment plan vis a vis your financial objectives. Portfolio management allows you to take more informed decisions about the kind of investments you should make. For example, you may have an over-exposure to equities which increases your risk.

### **2. Track performance:**

Consolidating all your investments into one portfolio enables you to track the performance of assets and compare them easily. If a particular investment is not performing as planned, you can sell it and reinvest the funds in a more profitable investment. Also, portfolio management helps to readjust funds based on life goals. For example, for a long-term goal of your child's education, you can invest in equities and capitalize on their superior return. As you come closer to your goal, you can switch to safer debt mutual funds so that you don't incur any losses.

### **3. Invest in a regular and disciplined manner:**

The goal of portfolio management is to maximize your return. One investment technique to multiply your earnings is to invest often. For example, if you have a small amount you want to invest every month, you can start a systematic investment plan (SIP) in a mutual fund. That way, you will invest a dedicated amount every month. This disciplined investment will help to grow your funds faster.

### **4. Manage your liquidity:**

Nobody can predict when the need for funds will arise. Proper portfolio management can help you plan your investments in such a way that some you can easily sell off some assets when you urgently need funds. For example, you could keep some money in liquid funds, which you can sell off if you want money in a medical emergency.

### **5. Balance risk and reward:**

Not all assets are made equally. Some are riskier but can be more rewarding (equities). Some are safe but illiquid (PPF). Others are safe and liquid but deliver lower returns (liquid mutual funds). Portfolio management enables you to strike a balance between various investments depending on your needs.

## **6. Readjust your investments with time:**

When you manage your portfolio actively, you can make sure that it stays true to your goals. Let's assume, for example, that you start your portfolio with 60% in equity and 40% in debt. In a couple of years, equity does very well. It's quite possible that in such a scenario, equity may comprise 70% of your portfolio – which means you must readjust it to bring them back to your original 60-40 ratio.

## **7. Improve your financial understanding:**

One of the benefits of managing your portfolio of investments actively is that you learn how financial markets work. Even if someone else manages your portfolio, just dealing with a professional can improve your knowledge about different investments and their interactions.

### **CENTRAL CONCEPTS OF MARKOWITZ'S MODERN PORTFOLIO THEORY**

In 1952, Harry Markowitz presented an essay on "Modern Portfolio Theory" for which he also received a Noble Prize in Economics. His findings greatly changed the asset management industry, and his theory is still considered as cutting edge in portfolio management.

There are two main concepts in Modern Portfolio Theory, which are;

- Any investor's goal is to maximize Return for any level of Risk
  - Risk can be reduced by creating a diversified portfolio of unrelated assets
- Other names for this approach are *Passive Investment Approach* because you build the right risk to return portfolio for broad asset with a substantial value and then you behave passive and wait as it growth.

### **MAXIMIZE RETURN - MINIMIZE RISK**

Let's briefly define Return and Risk. **Return is considered to be the price appreciation of any asset**, as in stock price, and also any Capital inflows, such as dividends.

In general Standard Deviation is a fair measure of risk as we want a steady increase and not big swings which might possibly end up as loss.

**Risk is evaluated as the range by which the asset's price will on average vary, known as Standard Deviation.** If an asset's price has 10% Deviation from

the mean and an average expected Return of 8% you may observe Returns between -2% and 18%.

In a practical application of **Markowitz Portfolio Theory**, let's assume there are two portfolios of assets both with an average return of 10%, Portfolio A has a risk or standard deviation of 8% and Portfolio B has a risk of 12%. As both portfolios have the same expected return, any investor will choose to invest in portfolio A as it has the same expected earnings as portfolio B but with less risk.

It is important to understand risk; it is a necessary concept, as there would be no expected reward without it. Investors are compensated for bearing risk and, in theory, **the higher the Risk, the higher the Return**.

Going back to our example above it may be tempting to presume that Portfolio B is more attractive than Portfolio A. As portfolio B has a higher risk at 12%, it may obtain a return of 22%, which is possible but it may also witness a return of -2%. All things being equal it is still preferable to hold the portfolio that has an expected range of returns between +2% and +18%, as it is more likely to help you reach your goals.

#### **DIVERSIFIED PORTFOLIO & THE EFFICIENT FRONTIER**

Risk, as we have seen above, is a welcomed factor when investing as it allows us to reap rewards for taking on the possibility of adverse outcomes. Modern Portfolio Theory, however, shows that a **mixture of diverse assets will significantly reduce the overall risk of a portfolio**. Risk, therefore, has to be seen as a cumulative factor for the portfolio as a whole and not as a simple addition of single risks.

**Assets that are unrelated will also have unrelated risk**; this concept is defined as correlation. If two assets are very similar, then their prices will move in a very similar pattern. Two **ETFs** from the same economic sector and same industry are likely to be affected by the same macroeconomic factors. That is to say, their prices will move in the same direction for any given event or factor. However, two ETFs (**Exchange Traded Funds**) from different sectors and industries are highly unlikely to be affected by the same factors.

**This lack of correlation is what helps a diversified portfolio of assets have a lower total risk**, measured by standard deviation than the simple sum of the risks of each asset. Without going into any detail, a bit of math might help to explain why.

Correlation is measured on a scale of -1 to +1, where +1 indicates a total positive correlation, prices will move in the same direction par for par, and -1 indicates the prices of these to stocks will move in opposite directions.

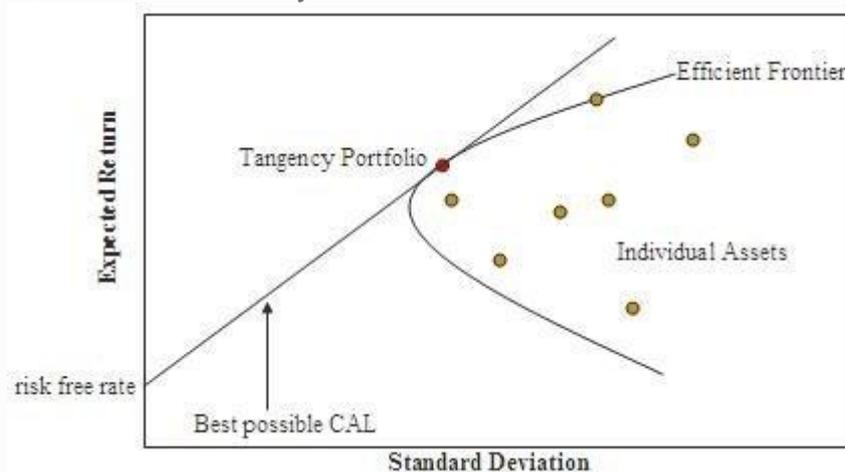
If correlation between all ETF pairs is 1, then it would seem reasonable that the total risk of the portfolio is equal to the sum of the weighted standard deviations of each individual ETF. Whereas a portfolio where the correlation of asset pairs is lower than 1 must lead to a total risk that is lower than the simple sum of the weighted standard deviations.

The magic of building different pairs is that by different combination it is possible to achieve basically every risk to return combination, even different from the risk to return level of the single components.

[Build your free portfolio now](#)

## MARKOWITZ EFFICIENT FRONTIER

The concept of **Efficient Frontier** was also introduced by Markowitz and is easier to understand than it sounds. It is a **graphical representation of all the possible mixtures of risky assets for an optimal level of Return given any level of Risk**, as measured by standard deviation.



The chart above shows a **hyperbola showing all the outcomes for various portfolio combinations of risky assets**, where Standard Deviation is plotted on the X-axis and Return is plotted on the Y-axis.

The Straight Line (Capital Allocation Line) represents a **portfolio of all risky assets and the risk-free asset**, which is usually a triple-A rated government bond.

**Tangency Portfolio** is the point where the **portfolio of only risky assets meets the combination of risky and risk-free assets**. This portfolio maximizes return for the given level of risk.

Portfolio along the lower part of the hyperbole will have lower return and eventually higher risk. Portfolios to the right will have higher returns but also higher risk.

**Markowitz Portfolio Theory** (Modern Portfolio Theory or Passive Investment Approach) is the base idea of the Ways2Wealth concept. Read more in the other articles to understand the Ways2Wealth Investment Approach.

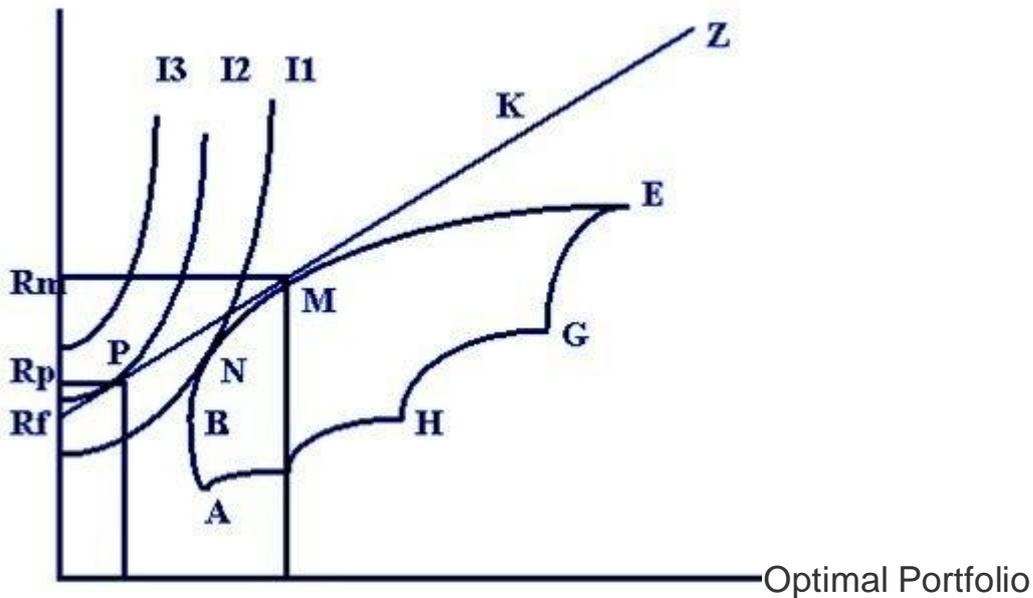
## Selecting Optimal Portfolio for an Investor

[CFA EXAM LEVEL 1, PORTFOLIO MANAGEMENT](#)

This lesson is part 19 of 20 in the course [Portfolio Risk and Return - part 1](#)

In the previous articles, we learned that an investor can invest in a combination of risk-free asset and risky assets anywhere on the [capital allocation line](#). A rational investor is also risk-averse and has a [utility indifference curve](#) that characterizes his risk-return expectations.

However, the problem is that on the capital allocation line, the investor can create an infinite number of portfolios with different risk-return combinations. So, how does one go about selecting the right portfolio that is suitable for an investor? This question can be answered by combining the capital allocation line or the efficient frontier with the indifference curves of the investor, as shown in the graph below:



The graph above shows the efficient frontier, the capital allocation line, and the three indifference curves for the investor.

Let's first take the case where the investor wants to put all his money in only risky assets. In that case the feasible set for the investor is depicted on the curve ABNME. We also have the indifference curves for the investor, namely, I1, I2, and I3. The efficient frontier is what the investor can invest in. Any portfolio below it is not preferred and any portfolio above it is not attainable. Therefore, there is no portfolio that is attainable on indifference curves I2 and I3. There is only one portfolio that meets his utility indifference curve, I1, and that is portfolio N. In this situation, portfolio N will be the optimal portfolio for the investor.

Now, let's assume that the investor wants to invest in both risky and risk-free assets. The capital allocation line ( $R_f$ -PMKZ) will depict the feasible set of portfolios. Again, any portfolio on I3 is unattainable. We also know that as we move leftwards, the utility of the investor increases. When we look at I1, there is a portfolio where CAL and I1 intersect. However, we have a better portfolio P where I2 intersects with CAL. In this scenario, portfolio P will be the optimal portfolio for the investor.

We can also note that between Portfolio N and Portfolio P, portfolio P is a better portfolio as the investor earns almost the same returns, but with lesser risk.

[ALGORITHMIC TRADING](#) [ALGORITHMIC/AUTOMATED TRADING BASIC EDUCATION](#)

## Arbitrage Pricing Theory (APT)

By [ADAM HAYES](#)

Updated Jun 25, 2019

### What Is the Arbitrage Pricing Theory (APT)?

Arbitrage pricing theory (APT) is a [multi-factor](#) asset pricing model based on the idea that an asset's returns can be predicted using the linear relationship between the asset's expected return and a number of macroeconomic variables that capture systematic risk. It is a useful tool for analyzing portfolios from a [value investing](#) perspective, in order to identify securities that may be temporarily mispriced.

*Arbitrage Pricing Theory*

### The Formula for the Arbitrage Pricing Theory Model Is

$$E(R)_i = E(R)_z + (E(I) - E(R)_z) \times \beta_n$$

**where:**  
 $E(R)_i$  = Expected return on the asset  
 $R_z$  = Risk-free rate of return  
 $\beta_n$  = Sensitivity of the asset price to macroeconomic factor  
 $E_i$  = Risk premium associated with factor  $i$

The beta coefficients in the APT model are estimated by using linear regression. In general, historical securities returns are regressed on the factor to estimate its beta.

### How the Arbitrage Pricing Theory Works

The arbitrage pricing theory was developed by the economist Stephen Ross in 1976, as an alternative to the [capital asset pricing model \(CAPM\)](#). Unlike the CAPM, which assume markets are perfectly efficient, APT assumes markets sometimes misprice securities, before the market eventually corrects and securities move back to fair value. Using APT, arbitrageurs hope to take advantage of any deviations from fair market value.

However, this is not a risk-free operation in the classic sense of [arbitrage](#), because investors are assuming that the model is correct and making directional trades—rather than locking in risk-free profits.

### **Mathematical Model for the APT**

While APT is more flexible than the CAPM, it is more complex. The CAPM only takes into account one factor—market risk—while the APT formula has multiple factors. And it takes a considerable amount of research to determine how sensitive a security is to various macroeconomic risks.

The factors as well as how many of them are used are subjective choices, which means investors will have varying results depending on their choice. However, four or five factors will usually explain most of a security's return. (For more on the differences between the CAPM and APT, read more about how [CAPM and arbitrage pricing theory differ](#).)

APT factors are the systematic risk that cannot be reduced by the diversification of an investment portfolio. The macroeconomic factors that have proven most reliable as price predictors include unexpected changes in inflation, [gross national product](#) (GNP), corporate bond spreads and shifts in the yield curve. Other commonly used factors are [gross domestic product](#) (GDP), commodities prices, market indices, and exchange rates.

### **KEY TAKEAWAYS**

- Arbitrage pricing theory (APT) is a multi-factor asset pricing model based on the idea that an asset's returns can be predicted using the linear relationship between the asset's expected return and a number of macroeconomic variables that capture systematic risk.
- Unlike the CAPM, which assume markets are perfectly efficient, APT assumes markets sometimes misprice securities, before the market eventually corrects and securities move back to fair value.
- Using APT, arbitrageurs hope to take advantage of any deviations from fair market value.

### **Example of How Arbitrage Pricing Theory Is Used**

For example, the following four factors have been identified as explaining a stock's return and its sensitivity to each factor and the risk premium associated with each factor have been calculated:

- Gross domestic product (GDP) growth:  $\beta = 0.6$ ,  $RP = 4\%$
- Inflation rate:  $\beta = 0.8$ ,  $RP = 2\%$
- Gold prices:  $\beta = -0.7$ ,  $RP = 5\%$
- Standard and Poor's 500 index return:  $\beta = 1.3$ ,  $RP = 9\%$
- The risk-free rate is 3%

Using the APT formula, the expected return is calculated as:

- Expected return = 3% + (0.6 x 4%) + (0.8 x 2%) + (-0.7 x 5%) + (1.3 x 9%) = 15.2%

## Compete Risk Free with

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## Capital Asset Pricing Model (CAPM)

By [WILL KENTON](#)

Updated Nov 13, 2019

### What Is the Capital Asset Pricing Model?

The Capital Asset Pricing Model (CAPM) describes the relationship between systematic risk and [expected return](#) for assets, particularly stocks. CAPM is widely used throughout finance for pricing risky [securities](#) and generating expected returns for assets given the risk of those assets and [cost of capital](#).

*Capital Asset Pricing Model (CAPM)*

### Understanding the Capital Asset Pricing Model (CAPM)

The formula for calculating the expected return of an asset given its risk is as follows:

$$\begin{aligned} &ER_i = R_f + \beta_i ( ER_m - R_f ) \\ &\text{where: } ER_i = \text{expected return of investment} \\ &R_f = \text{risk-free rate} \\ &\beta_i = \text{beta of the investment} \\ &(ER_m - R_f) = \text{market risk premium} \end{aligned}$$

**where:**  $ER_i$  = expected return of investment  
 $R_f$  = risk-free rate  
 $\beta_i$  = beta of the investment  
 $(ER_m - R_f)$  = market risk premium

Investors expect to be compensated for risk and the [time value of money](#). The [risk-free rate](#) in the CAPM formula accounts for the time value of money. The other components of the CAPM formula account for the investor taking on additional risk.

The [beta](#) of a potential investment is a measure of how much risk the investment will add to a portfolio that looks like the market. If a stock is riskier than the market, it will have a beta greater than one. If a stock has a beta of less than one, the formula assumes it will reduce the risk of a portfolio.

A stock's beta is then multiplied by the [market risk premium](#), which is the return expected from the market above the risk-free rate. The [risk-free rate](#) is then added to the product of the stock's beta and the market risk premium. The result should give an investor the [required return](#) or [discount rate](#) they can use to find the value of an asset.

The goal of the CAPM formula is to evaluate whether a stock is fairly valued when its risk and the time value of money are compared to its expected return.

For example, imagine an investor is contemplating a stock worth \$100 per share today that pays a 3% annual dividend. The stock has a beta compared to the market of 1.3, which means it is riskier than a market portfolio. Also, assume that the risk-free rate is 3% and this investor expects the market to rise in value by 8% per year.

The expected return of the stock based on the CAPM formula is 9.5%:

$$\begin{aligned} &9.5\% = 3\% + 1.3 \times (8\% - 3\%) \\ &9.5\% = 3\% + 1.3 \times (8\% - 3\%) \end{aligned}$$

The expected return of the CAPM formula is used to discount the expected dividends and capital appreciation of the stock over the expected holding period. If the discounted value of those future cash flows is equal to \$100 then the CAPM formula indicates the stock is fairly valued relative to risk.

### **Problems With the CAPM**

There are several assumptions behind the CAPM formula that have been shown not to hold in reality. Despite these issues, the CAPM formula is still widely used because it is simple and allows for easy comparisons of investment alternatives.

Including beta in the formula assumes that risk can be measured by a stock's price [volatility](#). However, price movements in both directions are not equally risky. The look-back period to determine a stock's volatility is not standard because stock returns (and risk) are not [normally distributed](#).

The CAPM also assumes that the risk-free rate will remain constant over the discounting period. Assume in the previous example that the interest rate on U.S. Treasury bonds rose to 5% or 6% during the 10-year holding period. An increase in the risk-free rate also increases the cost of the capital used in the investment and could make the stock look [overvalued](#).

The market portfolio that is used to find the market risk premium is only a theoretical value and is not an asset that can be purchased or invested in as an alternative to the stock. Most of the time, investors will use a major stock index, like the S&P 500, to substitute for the market, which is an imperfect comparison.

The most serious critique of the CAPM is the assumption that future cash flows can be estimated for the discounting process. If an investor could estimate the future return of a stock with a high level of accuracy, the CAPM would not be necessary.

## The CAPM and the Efficient Frontier

Using the CAPM to build a portfolio is supposed to help an investor manage their risk. If an investor were able to use the CAPM to perfectly optimize a portfolio's return relative to risk, it would exist on a curve called the [efficient frontier](#), as shown on the following graph.

Image by Julie Bang © Investopedia 2019

The graph shows how greater expected returns (y-axis) require greater expected risk (x-axis). [Modern Portfolio Theory](#) suggests that starting with the risk-free rate, the expected return of a portfolio increases as the risk increases. Any portfolio that fits on the [Capital Market Line](#) (CML) is better than any possible portfolio to the right of that line, but at some point, a theoretical portfolio can be constructed on the CML with the best return for the amount of risk being taken.

The CML and efficient frontier may be difficult to define, but it illustrates an important concept for investors: there is a trade-off between increased return and increased risk. Because it isn't possible to perfectly build a portfolio that fits on the CML, it is more common for investors to take on too much risk as they seek additional return.

In the following chart, you can see two portfolios that have been constructed to fit along the efficient frontier. Portfolio A is expected to return 8% per year and has a 10% [standard deviation](#) or risk level. Portfolio B is expected to return 10% per year but has a 16% standard deviation. The risk of portfolio B rose faster than its expected returns.

Image by Julie Bang © Investopedia 2019

The efficient frontier assumes the same things as the CAPM and can only be calculated in theory. If a portfolio existed on the efficient frontier it would be providing the maximal return for its level of risk. However, it is impossible to know whether a portfolio exists on the efficient frontier or not because future returns cannot be predicted.

This trade-off between risk and return applies to the CAPM and the efficient frontier graph can be rearranged to illustrate the trade-off for individual assets. In the following chart, you can see that the CML is now called the [Security Market Line](#) (SML). Instead of expected risk on the x-axis, the stock's beta is used. As you can see in the illustration, as beta increases from one to two, the expected return is also rising.



Image by Julie Bang © Investopedia 2019

The CAPM and SML make a connection between a stock's beta and its expected risk. A higher beta means more risk but a portfolio of high beta stocks could exist somewhere on the CML where the trade-off is acceptable, if not the theoretical ideal.

The value of these two models is diminished by assumptions about beta and market participants that aren't true in the real markets. For example, beta does not account for the relative riskiness of a stock that is more volatile than the market with a high frequency of downside shocks compared to another stock with an equally high beta that does not experience the same kind of price movements to the downside.

### **Practical Value of the CAPM**

Considering the critiques of the CAPM and the assumptions behind its use in portfolio construction, it might be difficult to see how it could be useful. However, using the CAPM as a tool to evaluate the reasonableness of future expectations or to conduct comparisons can still have some value.

Imagine an advisor who has proposed adding a stock to a portfolio with a \$100 share price. The advisor uses the CAPM to justify the price with a discount rate of 13%. The advisor's investment manager can take this information and compare it to the company's past performance and its peers to see if a 13% return is a reasonable expectation.

Assume in this example that the peer group's performance over the last few years was a little better than 10% while this stock had consistently underperformed with 9% returns. The investment manager shouldn't take the advisor's recommendation without some justification for the increased expected return.

An investor can also use the concepts from the CAPM and efficient frontier to evaluate their portfolio or individual stock performance compared to the rest of the market. For example, assume that an investor's portfolio has returned 10% per year for the last three years with a standard deviation of returns (risk) of 10%. However, the market averages have returned 10% for the last three years with a risk of 8%.

The investor could use this observation to reevaluate how their portfolio is constructed and which holdings may not be on the SML. This could explain why the investor's portfolio is to the right of the CML. If the holdings that are either dragging on returns or have increased the portfolio's risk disproportionately can be identified, the investor can make changes to improve returns.

## Capital Asset Pricing Model (CAPM) Summary

The CAPM uses the principles of Modern Portfolio Theory to determine if a security is fairly valued. It relies on assumptions about investor behaviors, risk and return distributions, and market fundamentals that don't match reality. However, the underlying concepts of CAPM and the associated efficient frontier can help investors understand the relationship between expected risk and reward as they make better decisions about adding securities to a portfolio

Unit—4

Bond portfolio management strategies can help investors get the most of their portfolio, by actively managing fixed income investments to ensure maximum returns. These strategies include interest rate anticipation, sector rotation and security selection.

Bond portfolio management strategies are based on managing fixed income investments in pursuit of a particular objective – usually maximizing return on investment by minimizing risk and managing interest rates. The management of the portfolio can be done by professional [investment managers](#) or by investors themselves.

Here's a look at the key strategies:

### Interest Rate Anticipation

Bond portfolio management strategies that involve [forecasting interest rates](#) and altering a bond portfolio to take advantage of those forecasts are called “interest rate anticipation” strategies. Interest rates are the most important factor in the pricing of bonds.

The price of a bond is based on its interest rate, or yield, at any particular time. The most important influence on a bond's yield is the term structure of interest rates. Generally, the market interest rate for any particular term of bond is represented by the yields on [government bonds](#), as these are viewed as highly liquid and of very low default risk.

Basic interest rate anticipation strategy involves moving between long-term government bonds and very short-term treasury bills, based on a forecast of interest rates over a certain time horizon.

Since long-term bonds change the most in value for a given change in interest rates, a manager would want to hold long-term bonds when rates are falling. This would provide the maximum increase in price for a portfolio. The reverse is true in a [rising interest rate](#) environment. Long-term bonds fall the most in price for a given rise in interest rates and a manager would want to hold treasury bills. Treasury bills have a very short [duration](#) and do not change very much in value. [Yield curve strategies](#) are more sophisticated interest rate anticipation strategies that take into account the differences in interest rates for different terms of bonds, called the “term structure” of interest rates. A chart of the interest rates for bonds of different terms is called the “yield curve.” A yield curve strategy would position a bond portfolio to profit the most from an expected change in the yield curve, based on an economic or market forecast.

### Sector Rotation in Bonds

Bond portfolio management strategies based on [sector rotation](#) involve varying the weight of different types of bonds held within a portfolio. An investment manager will form an opinion on the valuation of a specific sector of the bond market, based on fundamental credit factors, technical factors (such as supply and demand), and relative valuations compared to historical norms within

that sector. A manager will usually compare her portfolio to the weightings of the benchmark index that she is being compared to on a performance basis.

## Security Selection for Bonds

Security selection for bond management involves fundamental and credit analysis and quantitative valuation techniques at the individual security level. Fundamental analysis of a bond considers the nature of the security and the potential cash flows attached to it. Credit analysis evaluates the likelihood that the payments will continue to be made over the bond's term. Modern quantitative techniques use statistical analysis and advanced mathematical techniques to attach values to the cash flows and assess the probabilities inherent in their nature.

## [INVESTING](#) [PORTFOLIO MANAGEMENT](#)

### Passive vs. Active Portfolio Management: What's the Difference?

- FACEBOOK
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- LINKEDIN

By [NICK LIOUDIS](#)

Updated Feb 15, 2020

#### **Passive vs. Active Portfolio Management: An Overview**

Investors have two main investment strategies that can be used to generate a return on their investment accounts: active portfolio management and passive portfolio management.

- Active portfolio management focuses on outperforming the market in comparison to a specific benchmark such as the Standard & Poor's 500 Index.
- Passive portfolio management mimics the investment holdings of a particular index in order to achieve similar results.

As the names imply, active portfolio management usually involves more frequent trades than passive management.

An investor may use a portfolio manager to carry out either strategy, or may adopt either approach as an independent investor.

#### **KEY TAKEAWAYS**

- Active management requires frequent buying and selling in an effort to outperform a specific benchmark or index.
- Passive management replicates a specific benchmark or index in order to match its performance.
- Active management portfolios strive for superior returns but take greater risks and entail larger fees.

## Active Portfolio Management

The investor who follows an active portfolio management strategy buys and sells stocks in an attempt to outperform a specific index, such as the [Standard & Poor's 500](#) Index or the Russell 1000 Index.

An actively managed investment fund has an individual portfolio manager, co-managers, or a team of managers all making investment decisions for the fund. The success of the fund depends on in-depth research, market forecasting, and the expertise of the management team.

Portfolio managers engaged in active investing follow market trends, shifts in the economy, changes to the political landscape, and any other factors that may affect specific companies. This data is used to time the purchase or sale of assets.

Proponents of active management claim that these processes will result in higher returns than can be achieved by simply mimicking the stocks listed on an index.<sup>1</sup>

Since the objective of a portfolio manager in an actively managed fund is to beat the market, this strategy requires taking on greater [market risk](#) than is required for passive portfolio management.

Passive portfolio management is also known as index fund management.

## Passive Portfolio Management

Passive portfolio management is also referred to as [index fund](#) management.

The portfolio is designed to parallel the returns of a particular [market index](#) or benchmark as closely as possible. For example, each stock listed on an index is weighted. That is, it represents a percentage of the index that is commensurate with its size and influence in the real world. The creator of an index portfolio will use the same weights.

The purpose of passive portfolio management is to generate a return that is the same as the chosen index.

A passive strategy does not have a management team making investment decisions and can be structured as an exchange-traded fund (ETF), a mutual fund, or a [unit investment trust](#).

Index funds are branded as passively managed rather than unmanaged because each has a portfolio manager who is in charge of replicating the index.<sup>2</sup>

Because this investment strategy is not proactive, the management fees assessed on passive portfolios or funds are often far lower than active management strategies.

Index mutual funds are easy to understand and offer a relatively safe approach to investing in broad segments of the market

## What is a Portfolio ?

A combination of various investment products like bonds, shares, securities, mutual funds and so on is called a portfolio.

In the current scenario, individuals hire well trained and experienced portfolio managers who as per the client's risk taking capability combine various investment products and create a customized portfolio for guaranteed returns in the long run.

It is essential for every individual to save some part of his/her income and put into something which would benefit him in the future. A combination of various financial products where an individual invests his money is called a portfolio.

## What is Portfolio Revision ?

**The art of changing the mix of securities in a portfolio is called as portfolio revision.**

The process of addition of more assets in an existing portfolio or changing the ratio of funds invested is called as portfolio revision.

The sale and purchase of assets in an existing portfolio over a certain period of time to maximize returns and minimize risk is called as Portfolio revision.

## Need for Portfolio Revision

- An individual at certain point of time **might feel the need to invest more**. The need for portfolio revision arises when an individual has some additional money to invest.
- **Change in investment goal** also gives rise to revision in portfolio. Depending on the cash flow, an individual can modify his financial goal, eventually giving rise to changes in the portfolio i.e. portfolio revision.
- Financial market is subject to risks and uncertainty. An individual might sell off some of his assets owing to fluctuations in the financial market.

## Portfolio Revision Strategies

There are two types of Portfolio Revision Strategies.

### 1. Active Revision Strategy

Active Revision Strategy involves **frequent changes** in an existing portfolio over a certain period of time for maximum returns and minimum risks.

Active Revision Strategy helps a portfolio manager to sell and purchase securities on a regular basis for portfolio revision.

### 2. Passive Revision Strategy

Passive Revision Strategy involves rare changes in portfolio only under certain predetermined rules. These predefined rules are known as formula plans.

According to passive revision strategy a portfolio manager can bring changes in the portfolio as per the formula plans only.

## What are Formula Plans ?

**Formula Plans are certain predefined rules and regulations deciding when and how much assets an individual can purchase or sell for portfolio revision.** Securities can be purchased and sold only when there are changes or fluctuations in the financial market.

## Why Formula Plans ?

- Formula plans help an investor to make the best possible use of fluctuations in the financial market. One can purchase shares when the prices are less and sell off when market prices are higher.
- With the help of Formula plans an investor can divide his funds into aggressive and defensive portfolio and easily transfer funds from one portfolio to other.

## Aggressive Portfolio

Aggressive Portfolio consists of funds that appreciate quickly and guarantee maximum returns to the investor.

## Defensive Portfolio

Defensive portfolio consists of securities that do not fluctuate much and remain constant over a period of time.

Formula plans facilitate an investor to transfer funds from aggressive to defensive portfolio and vice versa.

## PORTFOLIO REVISION MEANING

Portfolio revision is one of the pillars of the overall process of [portfolio management](#). It entails assessing the change in portfolio composition over a period of time and taking steps, if required, to get it back in line with the investment objective and risk tolerance framework with which the portfolio was initially constructed. Portfolio revision also helps investors in keeping their investments relevant to changing times and trends. The primary intention behind portfolio revision is to achieve an optimal amount of returns for a given level of risk.

## IMPORTANCE OF PORTFOLIO REVISION

Portfolio revision is important in order to keep up with changes in the business and economic cycle as well as market movement. Some other factors also enhance its importance:

- Changing the amount invested due to a pressing need for withdrawal or increased investable income.
- Change in risk-tolerance due to change in investment objectives or life-cycle.

In order to ensure that even after having to take actions based on the two points above an investor continues to get rewarded for his investments, portfolio revision becomes an essential activity under the overall umbrella of [portfolio management](#).

## **PORTFOLIO REVISION STRATEGIES**

Alike portfolio construction, portfolio revision techniques can be one of the following two:

### **ACTIVE PORTFOLIO REVISION**

As the name of the strategy suggests, an investor or professional portfolio manager is quite hands on with making changes to the portfolio. The underlying philosophy behind active

portfolio revision is that in-depth securities research and analysis can reveal investments which can beat market returns as markets are inefficient. Subscribers of this strategy don't find the idea of market returns appealing and react to changes in market situations in order to gain an advantage over others.

However, in order to try to generate greater than market returns and the relatively frequent churning of portfolios, this strategy is costly due to the cost associated with research as well as higher trading costs than a passive strategy.

### **PASSIVE PORTFOLIO REVISION**

In passive portfolio revision, the primary aim is to keep earning market returns by executing a buy-and-hold strategy for the most part. This is not to say that changes are not made to the portfolio at all throughout the investment horizon, just the portfolio changes are less in number compared to the active strategy and portfolio managers do not react to every change in the direction of markets.

The believers in passive portfolio revision subscribe to Efficient Market Hypothesis which holds that financial markets are efficient as all available information about a security is available throughout the market and is priced into the security. Due to this belief, this technique finds it futile to try to beat market returns, and thus, tries to equal them.

Portfolio changes in this strategy usually take place at a pre-determined duration and due to a little requirement of research and a smaller number of changes, the costs associated with this strategy are low.

There are rules associated with the portfolio revision strategy, specifically that which is passive in approach, which decides the changes that will need to be made to a portfolio. These rules are known as formula plans.

### **FORMULA PLANS**

For the purpose of understanding Formula Plans, let's assume that there are two broad divisions of a portfolio – aggressive, which is equity-oriented, and conservative or defensive, which includes government and high-grade corporate [bonds](#).

Formula Plans, which are a set of rules determining changes to a portfolio, can be of three types:

#### **CONSTANT DOLLAR VALUE PLAN**

The constant dollar value plan works with the aim of keeping the dollar-denominated equities portion of the portfolio constant. This implies that if the value of the equities portion rises beyond the set dollar value due to favorable market movement, some stocks from that aggressive segment of the portfolio will be sold in order to maintain the constant dollar value pre-determined for it.

This also works the other way around in that if the value of the aggressive segment decline because stock prices have fallen, more stocks need to be purchased in order to maintain the constant dollar value.

In order to execute this plan, what needs to be decided is the frequency of this change because that will determine the costs associated with this strategy. Investors need to allow some leeway to the constant dollar value plan in order to ensure that their transaction costs do not eat into their profits, especially in a volatile market where the constant dollar value can be breached frequently.

The most prominent aspect of this plan is the ease of execution. Taking into consideration the pre-determined action points and periods, an investor is always certain about his fixed exposure to equities, thus alleviating the worry of exposing himself to increased risk.

### **CONSTANT RATIO PLAN**

The constant ratio plan is based on the idea that the aggressive and conservative portions of the portfolio are set according to a ratio. For instance, a ratio of 1:1 between the two segments means that half of the portfolio will be invested in stocks while the other half would be invested in defensive securities like bonds. On the other hand, a ratio of 1.5:1 between aggressive and defensive segments respectively means that 60% of the portfolio will comprise of stocks while 40% will be invested in bonds.

While in both the Constant Dollar Value Plan and the Constant Ratio Plan, the equities portion is rebalanced at pre-determined periods based on whether stocks have risen or fallen, in the sense of pre-determined ratios, the Constant Ratio Plan goes beyond the Constant Dollar Value Plan by fixing a relationship between the two portions.

### **VARIABLE RATIO PLAN**

The variable ratio plan builds on where the constant ratio plans stop by providing higher flexibility than the latter does. The plan allows the ratio between the aggressive and defensive portions of a portfolio to change either based on market movement or on some pre-set factors.

For instance, a variable ratio plan can allow for a higher ratio of the aggressive portion vis-à-vis the conservative portion when equities are doing well in order to benefit from the bull-run. The plan can also allow for a higher ratio in favor of the defensive portion as an investor grows old and his life cycle demands a more conservative approach to investments.

It is important for investors to note that these techniques provide a broad framework for portfolio revision or rebalancing and cannot determine the success of a strategy on their own. That involves securities selection in light of investment objective, horizon, and risk profile of the investor.<sup>1,2</sup>

References

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