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THE IMPORTANCE OF ADOPTING A GOOD MANAGEMENT STRATEGY

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INTRODUCTION

Portfolio management strategies can be classified in two groups: active and passive. Portfolio managers consider that the market is not totally efficient when it comes to security prices reflecting all available information, and for this reason, they will search for mispriced securities, following an active strategy. On the other hand, portfolio managers believing that the market is nearly efficient and that the performance of active management does not justify its expenses, will pursue a passive strategy for mispriced securities.

There should be no doubt that by applying and active management strategy[1], the costs involved in the implementation of this type of investment strategy will be higher, without any assurance that they will achieve better results that if a passive management strategy is applied. However, and despite of the high cost involved in the implementation of an active management strategy, the amount of managers following a passive management strategy is insignificantly small, compared to the amount of managers following an active management strategy.

Based on numbers, perhaps it is easy to conclude that the best management strategy is the one followed by active managers, but this is something not always true, because the outcome of the strategy applied depends on a number of factors and the specific situation that exists in the market in a specific moment. So, which portfolio management strategy is the best one to be followed? The purpose of this article is to try to present some elements and ideas with the purpose of allowing portfolio managers to decide which management strategy should be followed, taking into account that the current debate on this relevant subject seems to be a never-ending story within the financial community, without anyone possessing the truth. At

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[1] This type of managers is commonly known as “active managers or active investing”. Portfolio managers that follow a passive management strategy are commonly known as “passive managers or passive investing”.

the end what is important to be proved is the following statement: managers that follow an active management strategy, using costly forecasting techniques with the purpose of beating the market, are able to achieve more often higher performance than those managers following a passive management strategy, who do not waste any resources in trying to outperform the market.

MARKET EFFICIENCY

There are quite a few definitions of market efficiency that can be used for investment purposes, but the most appropriate seems to be the following (Winger and Frasca, 1995):

> "An efficient market is one in which a security's price reflects all existing information that bears on its expected return in the future. This information includes both technical data, such as historical prices and volume, and fundamental data, such as past or projected earnings and balance sheet strength."

In addition to the above definition of market efficiency already adopted, let assume that the following three assumptions are valid: a) investors are taking their decisions based on technical and fundamental data available in the market; b) there is a sufficient number of investors in the market; and c) no single investor can influence the market price with his/her trading activities. If these assumptions are valid, then it can be stated that the market is in equilibrium. What does this mean? This means that the market price is relatively stable with no pressure driving it up or down. This stability of the market price may be short-lived, since new information can change the expectations of investors, leading to buy or sell securities and pushing the price up or down the equilibrium level. In this type of market investors can make excess profits only by knowing in advance the new information that will cause an equilibrium shift (Winger and Frasca, 1995).

The main questions here to be answered are the following: Can the investors know this information in advance or will this information be available in due time to all investors independently of the management strategy followed? Can investors have access to this information without doing anything or should they adopt an active position, trying to have access to this information before other investors do? Most capital markets, especially in developed countries, are highly competitive. There are many participants and the information about securities is generally available at low cost. However, it is important to note that changes in the economic, political and social structure are quickly dispersed, transaction costs are low, markets generally liquid, the institutional structure is well developed and regulations in place guarantee a smooth working of the markets. Because of all this, most capital markets are expected to be generally efficient (Farrell, 1983).

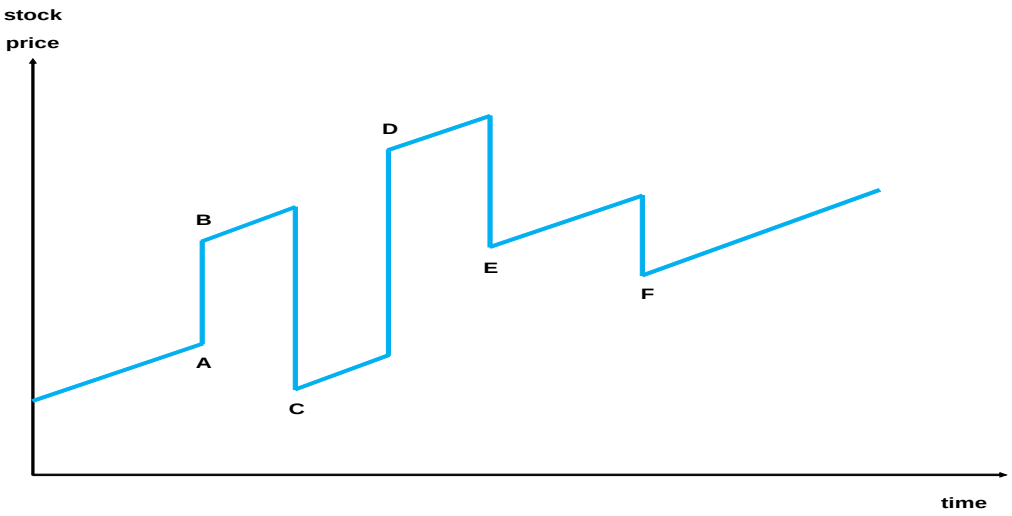
The Efficient Market Hypothesis

One of the most important concepts in modern portfolio theory is the Efficient Market Hypothesis (EMH): the market is assumed to be efficient, since there are a lot of rational, profit-seeking and risk-averting investors competing in forecasting the future value of stocks. Any new change related to a stock is rapidly known in the entire investment community and

soon reflected in the price of the stock (Cohen *et al*, 1987). However, can it be assumed without any doubt that the market is always efficient? The answer to this question is not a simple one. "With respect to market behavior there are, at the extremes, two views. At one extreme is the well-known EMH which says that the prices are always fair and quickly reflective of information. In such a world neither professional investors nor the proverbial little investors will be able to systematically pick winners or losers. At the other extreme we have the so called the "Market Failure Hypothesis (MFH)". According to this view, prices react to information slowly enough to allow some investors, presumably professionals, to systematically outperform markets and most other investors" (Sinquefield, 1995).

Under the EMH, as soon as there is some information available indicating that a stock is underpriced and profit can be made out of it, investors will buy that stock and as a consequence the price will rise to a fair level. After prices reach fair levels, they will increase or decrease only in reaction to future new information. For this reason, if an investor wishes to take advantage of this situation, he/she should have access to new information available in the market before any other investor. However, future new information is unpredictable; otherwise it would be part of today's information. Thus, stock prices are also unpredictable and follow a random walk[2] (Bodie *et al*, 2002). Figure 1 illustrates the random walk of stock prices.

The price change from A to B could be a consequence of good news about dividends. The move from B to C could be due to negative information about dividends of a group of securities and so on.



Source: Cuthbertson, 1996.

Figure 1. Random walk for stock prices.

[2] In Winger and Frasca (1995) random walk is defined as changes in a variable over time revealing no identifiable pattern.

The price level follows a random walk, moving away from its starting point in a random fashion and rarely crossing it. Therefore, the return on the stock is unpredictable and past returns cannot be exploited to forecast future returns (Cuthbertson, 1996).

It is important to note that most academicians support the random walk theory but practitioners, for example those that work in Wall Street, believe that past stock prices show predictable trends and this way it is possible to forecast the market using past performance information (Cohen *et al*, 1987).

Perhaps using a short past period of stock prices information as a basis to forecast the market, would not provide useful information to investors. However, if investors use to forecast the market a series of past information on stock prices but in a longer period, then perhaps, under certain circumstances and using the appropiatre mathematical tools, the outcome of the action could provide useful information for investors in order to predict the market. To achieve this goal, it is important to use the information of past stock prices in a sufficiently long period, an adequate mathematic model to forecast the market, identify very well the circumstances under which the market works and the possible changes of these circumstances in order to avoid that a possible crisis in the sector could change the normal evolution of the market, among other relevant factors.

The EMH has very important implications for investment analysis and corporate management, but the hypothesis is impossible to be tested directly. To do this it would be indispensable to know in advance the following elements: a) the market's anticipated net operational cash flows; b) anticipated required rates of return for all future periods and c) all information relevant to security prices and the way this information is reflected in prices. Thus, for the use of EMH in investment analysis and management corporation, it is necessary to create tests of the EMH using existing information and statistical techniques, and these tests are usually made under the assumptions that: a) there are no transaction costs; b) no taxation and c) free access to all available information for all traders (Dobbins *et al*, 1994). Based on what has been said before, it can be concluded that there are evidences supporting and rejecting at the same time the EMH.

Forms of Market Efficiency

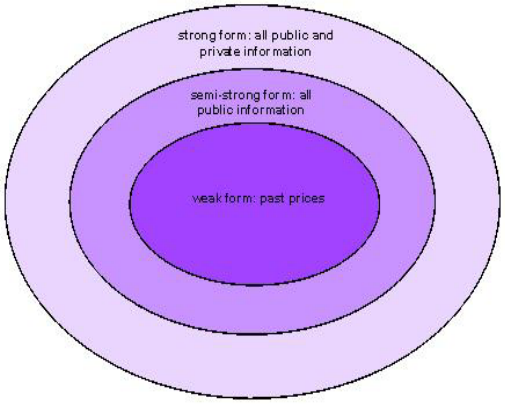
One way to determine the efficiency of the market is in relation to the type of information that is reflected in security prices. There are three forms of the EMH that can be considered: a) a weak form; b) a semi-strong form; and c) a strong form. When moving from the weak to the strong form, different types of investment analysis become ineffective in distinguishing between profitable and unprofitable investments (Haugen, 2001).

The weak form of the EMH affirms that current prices already reflect the information implied by the historical sequence of prices. Therefore, knowing the history of successive prices will not improve the ability of the investor in achieving higher returns. The semi-strong form affirms that current prices reflect all public information about companies and analyzing this information will not lead to superior returns. Finally, the strong form of the EMH declares that not even those with privileged information will achieve superior investment results, since all existing information is already included in the price (Farrell, 1983). The following table summarizes the different forms of the EMH.

Table 1. Forms of Market Efficiency

Forms of Market Efficiency	
Form	**Information reflected in prices**
Weak	Historical data
Semi-strong	Historical data plus other public information
Strong	Historical data, public information and private information

Source: Fabozzi, 1994.



Source: Sharpe *et al*, 1999.

Figure 2. Information and the levels of market efficiency.

Figure 2 illustrates how in moving from the weak form to the semi-strong form and then to the strong form of the EMH, the set of information increases.

The weak form tests carried out until now have shown that the market is generally efficient. These tests are not difficult to be carried out because they use past prices, which are normally available. However, when additional information is added to the tests, then it becomes more difficult to carry out such tests. For this reason, there are many difficulties in testing the semi-strong form and the results of the tests are not so explicit; therefore it can be concluded that the market is efficient only to a certain extent with respect to this form of the EMH. In the case of the strong form, there is not enough evidence from the tests carried out using this form of EMH, that the market is perfectly efficient, meaning that there is in fact an opportunity to achieve superior returns (Farrell, 1983).

It is important to mention the following: the grade of efficiency varies across different markets. Emerging markets for example, are less intensively analyzed than the U.S. markets, and small stocks might receive less coverage by analysts than large ones. Taking into account that not all markets are systematically analyzed, it cannot be said that there is absolutely no chance of coming up with new information. For this reason, professional portfolio managers are willing to spend huge sums on research effort, trying to find new information about the behavior of the market, since a small increase of performance is accompanied with large rewards (Bodie *et al*, 2002).

According to Bodie *et al* (2002), there are three factors that imply that the discussion about the EMH most likely never be settled. The first factor is called "magnitude issue" and refers to the fact that only managers of large portfolios can make enough trading earnings, so that slight mispricing is worth the effort. According to this factor, the actions of bright investment managers are the driving power behind the constant movement of market prices to fair levels.

The second factor is named "selection bias". Under this factor only investors who discover that an investment method cannot create unusual returns, will report their discovery to the world. Investors that find a scheme that could produce abnormal returns will keep it secret. Thus, opponents of the EMH believe that the techniques that work are not reported to the public, so that the right skills of portfolio managers in creating successful stock market strategies cannot be evaluated.

The third factor is called "lucky event issue" and based on it any bet on a stock is like throwing a coin: one can win or lose the bet. If many investors using different techniques make fair bets, then some of them will win the majority of the bets. For every big winner there are many big losers, but no one hears of them. The winners are considered market gurus, but in most cases they cannot repeat their performance.

It seems that capital markets are not as efficient as to make investment analysis useless, but studies reveal that they are efficient enough to suggest that results above average are hard to accomplish. There are studies indicating that some important investment information may not be recognized by investors or just not lead to quick reactions, so that investors with the ability to use information faster than the rest, have a competitive advantage (Cohen *et al*, 1987).

There has been some criticism of the EMH as well. One of them is that lots of investors do not behave in a way which suggests that they accept the EMH, because they are trying to find underpriced stocks. But this behavior does not imply that markets are inefficient. It is the extremely competitive activity of investors what makes the market efficient. As a consequence, for the market to be efficient, it is essential that many people do not believe that it is efficient (Dobbins *et al*, 1994).

It is also important to mention that there are a number of so called "anomalies", in other words, "evidences" that seem incompatible with the EMH. Which are these anomalies? In the following paragraphs some of these anormalies are briefly described.

Market Anomalies

The Price/Earnings Effect

The first anomaly to be considered is the price/earnings (P/E) effect. Portfolios of low P/E ratio stocks have shown higher average risk-adjusted returns than portfolios of high P/E ratio stocks. The idea behind the P/E ratio is that, for example, if the P/E ratio is 8, one pays 8 units of currency per share per 1 unit of currency of current earnings. Many security analysts believe that they are more likely to find bargains among low P/E ratio stocks. Supporters of the EMH will be skeptical that a strategy of investing in low P/E ratio stocks will lead to an expected rate of return greater than that of high P/E ratio stocks with the same risk. Even though the empirical evidence is mixed, if one takes into consideration the EMH, even if the

strategy has worked in the past, it is not going to work in the future, because too many investors will be following the same strategy (Bodie *et al*, 1997).

The Small-Firm-Effect

One of the most mentioned anomalies is the so called "small-firm effect", which shows that stocks of small firms tend to earn abnormal returns mostly in the month of January. Some researchers believe that this is related to tax-loss selling at the end of the year. The theory behind it is that a lot of people sell stocks which have declined in price during the previous months to realize their capital losses before the end of the tax year. These investors do not put the proceeds from their sales back into the stock market until after the turn of the year, and at that point the rush of demand pushes prices upward. The stocks of small firms tend to have the greatest variability of prices during the year and due to this, a large number of them have declined sufficiently to provoke tax-loss selling. The main question that remains is why market participants do not exploit the small-firm effect and eliminate it. A possible explanation could be the fact that the market is divided into two groups: institutional investors who mainly invest in large firms, and individual investors who invest disproportionately in smaller firms. The driving force behind efficient markets are managers of large institutional portfolios, who search for profit opportunities and move prices to fair levels, but institutional investors seem not to buy stocks of small firms (Bodie *et al*, 1997).

The Neglected-Firm Effect

There is also a tendency of investments in stocks of less well-known firms to produce abnormal returns. This can be viewed as another interpretation of the small-firm effect, since small firms tend to be neglected by large institutional traders and there is not much information available about them. This leads to higher risk and therefore, higher profit expectations (Bodie *et al*, 1997).

Beating the Efficiency Market Hypothesis

As mentioned in Berk (2005), proponents of the EMH believe that it is impossible to beat the market consistently, and to support their opinion, they point to the evidence that active managers as a group systematically do not beat the market. They are convinced that these investment professionals do not have the skills necessary to pick up stocks on time from the market. Thus, it does not seem surprising that the EMH is not very popular among stock market professionals and investment advisers, since their income depends on convincing investors that they can make money through profitable trading. There is a lot of research supporting the EMH, but with luck, inside information or forecasting ability, some investors might beat the market. However, in most cases one can only expect to be rewarded for the market risk one is willing to bear.

There are two types of non-public information: a) private information; the use of this type of information to try to beat the market is legal, and b) inside information; the use of this type of information to beat the market is illegal. It is important to stress that it is illegal for

insiders[3] to use inside information when entering into a security transaction; in other words, insiders cannot take advantage of non-public information to try to beat the market because this type of information is not available to other people involved in the transaction. This includes not only insiders, but also to whom they give access to such secret information.

It seems obvious that besides from luck, investors can beat the market by having inside information. If the investor has access to non-public information, in addition to all the other information available to other investors, then excess returns can be achieved if the investors use correctly all available information. However, it is important to mention that inside information is not something easy to obtain and even if one gets access to it, there are still legal consequences for the use of this type of information to try to beat the market.

Finally, it is also possible to achieve higher performance with superior forecasting ability. Investors with the ability of forecasting general movements in the market should hold a high-beta[4] portfolio, if the market is supposed to move upwards. Those who believe that they have forecasting ability in a particular sector of the market, should seek out those companies with high specific risk to achieve higher returns (Dobbins *et al*, 1994).

Role of Portfolio Management in Efficient Markets

Let consider now the subject of portfolio management in efficient markets. There should be no doubt that the most important task of portfolio managers is to construct portfolios with the best chance of meeting longer-term goals and improve returns by asset class shifts and also security selection within classes. But there is no guarantee that all these efforts will be successful, since the EMH has implications for portfolio management (Farrell, 1983).

One of the main concern of most of the portfolio managers is how and where to invest. Most portfolio managers do not invest all the money in one single security because the risk of failure is very high; this means that the objective to get the highest possible return could not be achieved. At the same time, portfolio managers are trying that the performance of the entire portfolio be as high as possible rather than trying to achieve the same results in each security, something very difficult to accomplish. For this reason, portfolio managers try to combine securities in a way that the overall return of the portfolio is increased and the risk of the portfolio decreased. The determination of superior performance is therefore made for the entire portfolio, rather than separately for each security (Lee *et al*, 1990).

It is known that diversification eliminates the specific risk, which is the risk related to individual securities; but diversification does not remove the market risk, which is the risk related to movements in anticipation of the economy. As a result, in an efficient market there are no rewards for accepting diversifiable risk but yes for accepting market risk, and investors with a diversified portfolio can balance out disappointments of individual stocks by successes of other stocks in the portfolio.

In a market where all share prices reflect all available information there is no sense in continuous switching from one security to another, since this incurs transaction costs and the possibility of taxation. For this reason, modern portfolio theory recommends to investors to choose their preferred portfolio and avoid transaction costs by following a buy-and-hold

[3] Insiders are officers and directors of a company, but also stockholders who own 10% or more of a firm's shares.
[4] In Dobbins *et al* (1994) beta is defined as "a measure of portfolio risk, expressing the market sensitivity of returns".

strategy, adjusting the portfolio on occasion to preserve the preferred level of risk (Dobbins *et al*, 1994).

Portfolio managers should act all the time with great rationality in order to get the highest possible returns and to avoid adopting wrong decisions and strategies that increase the investment risk level. Based on what has been said before, rational portfolio management is very important, even in efficient markets, because even if all stocks are valued fairly, each still poses firm-specific risk that can be abolished through diversification.

Another argument for rational portfolio management is the risk profile of the investor, which might vary with age. For all these reasons, the job of a portfolio manager should consist in tailoring the portfolio to the needs of investors and not only in trying to beat the market (Bodie *et al*, 2002).

ACTIVE PORTFOLIO MANAGEMENT

Characteristics of an Active Portfolio Management Strategy

In Sharpe et al (1999), active portfolio management strategy[5] is defined "as a form of investment management that involves buying and selling financial assets, with the purpose of earning abnormal returns". An active strategy uses available information and forecasting techniques to achieve higher performance than a portfolio that is simply diversified broadly. A passive strategy, on the other hand, tries to match the performance of a market index, assuming that all available information is reflected in the price of the security. In other words, active management is an attempt to apply human intelligence to find good deals in the financial markets. Active managers try to pick attractive stocks, bonds and mutual funds, identify the appropriate time to move into or out of markets or market sectors, and to place leveraged bets on the future direction of securities and markets with options, futures and other derivatives. Their objective is to make a profit, to do better than they would have done if they simply accepted average market returns. Active managers seek to identify companies that are offering above-average returns. Normally, these companies show an impressive growth in sales and profits, or are promising the production of new products or are exiting from a period of poor performance. In all of these cases, active managers purchase securities selectively based on some forecast of future of the market with the purpose to beat it.

There are three ways that active managers normally used to try to beat the market. One of the ways is to use as reference companies with impressive past growth in sales and profits. Another way is to use as reference companies with promising new products. A third way focus on the possibility to turnaround distressed firms.

There are two important active portfolio management methods used to beat the market: a) security analysis; and b) technical analysis. The job of a security analyst is to estimate the value of securities with the purpose of recommending buying or selling the stock. The technical analysis attempts to find patterns in price movements to predict future prices using mathematical models. Regardless of the individual method used, all active managers share a common goal: they buy and sell securities selectively, based on some forecast of future events

[5] Also called "active strategy".

with the purpose of earning abnormal returns. Active portfolio management can take two main forms: a) market timing: and b) security selection. The most popular kind of market timing is to time the stock market, by buying the stock when one thinks the market will do relatively well, and selling the stock when believing the market will not do well. The purpose of using security selection is to find mispriced securities to improve the risk-return trade-off, by buying underpriced and selling overpriced securities. This requires some amount of diversification (Bodie *et al*, 1989).

Active managers also use the method of sector or industry selection in their analysis of the market. Managers following this type of analysis rotate their portfolios, overweighting sectors or industries they consider undervalued and underweighting those they believe are overvalued. Most managers though choose stocks within one sector or industry and there are two reasons for this specialization: the first reason is the assurance that the sector is permanently undervalued, and the second reason is the belief that the staff is better in picking undervalued stocks in that sector or industry than in a different one. There is not really a justification for the first reason, but the second can be justified by the increasing complexity and specialization in today's world (Elton and Gruber, 1995).

According to Goetzmann and Ibbotson (1994), active managers' best proof of superior skills is in past results and they are judged on their performance track record, but the EMH implies that past performance is no guide to future performance. The EMH also supports the idea that active management should not be expected to work for long. Why? Because in a competitive financial environment victorious trading strategies tend to self-destruct, due to the fact that there are so many highly qualified analysts, so that bargains do not exist long and a lot of successes are based on luck rather than on skills.

Security Analysis

Security analysis plays a major role in active portfolio management. The job of a security analyst is to estimate the value of securities and if it is above its market price, then the analyst will recommend buying the stock. On the other hand, if the value is below the market price, then the security should be sold. Underpriced stocks are purchased until their price is bid up to equal their value, and overpriced stocks are sold forcing their price down until it equals their value (Lee *et al*, 1990).

There are two main groups of security analysts: the first one uses fundamental analysis, known as "fundamentalists"; the second uses technical analysis, known as "technicians". It can be said that fundamentalists are the analysts who tend to look forward, while technicians are the ones who tend to look backwards (Sharpe *et al*, 1999).

Technical Analysis

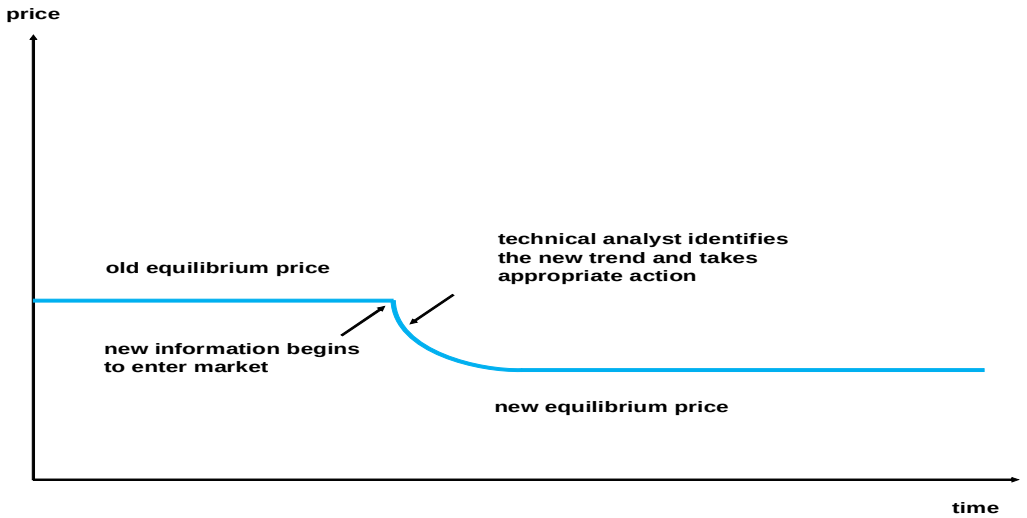
In contrast to fundamental analysts, who try to estimate the intrinsic value of a security, technical analysts try to forecast the price of the security rather than its value; to be more specific, they seek to forecast short-run shifts in supply and demand that will influence the market price of the security, not paying attention to the firm's risk and earnings growth (Francis, 1988).

Technicians believe that they will discover a trend that can be exploited during the adjustment process, no matter what the main reason for the change in the stock price is, and based on this finding, he/she expects to obtain a high rate of return of the investments. Analysts frequently using technical analysis in their work are often called "chartists", since they study charts of past stock prices, wishing to find patterns they can use to make a profit (Bodie *et al*, 2002).

Technicians do not expect the price adjustments to be as sudden as fundamentalists and efficient market supporters do. They expect stock prices to move in trends that persist for long periods, since new information does not arrive to the market at one point in time. This happens because of different sources of information, or because some investors receive the information or identify fundamental changes earlier than others. Thus, technicians expect a gradual adjustment that reflects the gradual flow of information (Reilly, 1994).

Figure 3 shows this process: The figure illustrates that new information causes a decrease in the equilibrium price, but the price adjustment is not fast and takes place as a trend that continues until the stock reaches its new equilibrium. Technicians do not try to predict the new equilibrium value but they search for the beginning of a movement from one equilibrium value to a new equilibrium value. They try to profit from the change early, by buying if the trend is up and selling if it is down (Reilly, 1994).

Technicians believe that investors do not learn from their mistakes. They will buy when stocks are high and sell when they are low, and not act independently until it is too late to make profits. Some technicians will in fact admit that they not expect to discover perfect methods of predicting stock prices, but as long as their techniques increase the possibility of investment success, they should be taken into consideration. Technical analysis is not a new development and for a lot of people it represents the original form of investment analysis, which emerged in the late 1800s and was used before fundamental research was carried out. Despite of criticism by academicians, all main Wall Street brokerage firms publish technical views (Cohen *et al*, 1987).



Source: Reilly, 1994.

Figure 3. Technicians view of price adjustment to new information.

If the weak form of the EMH is valid, then technical analysis turns out to be ineffective. A chartists plots movements in the price of the stock over time and when these movements take certain patterns, this means to the chartist that the stock may move in a particular direction. Chartists use different techniques to examine the past series of stock prices in order to forecast the future of the series. But, if the weak form of the EMH is valid, then there is no useful information in the past series that can be used to increase profit, since any information that was there has already been analyzed by other chartists anywhere else, and the stock price has settled to a level reflecting all information embedded in those past stock prices (Haugen, 2001).

It should be mentioned that most technicians do not consider fundamental analysis as something illogical; in fact they do believe that security prices fluctuate around their intrinsic value. On the other hand, technicians consider their methods not only easier, but faster as well and able to be applied to more stocks simultaneously, than in the case of fundamental analysis. But there is more criticism than that:

1. technicians have pointed out that even when fundamentalists find an underpriced security, they must wait for other investors in the market to agree with them, buy the security and bid up its price;
2. fundamental analysis is hard and time-consuming, so it is easier to study graphs than economics and accounting;
3. some variables used in fundamental analysis are estimated in a very subjective way (Francis, 1988).

Most professional technicians usually use technical analysis as a tool to make additional study, and if as a result of the study the stock looks interesting to them, then they use fundamental analysis to complete their studies of the market. They are convinced that their methods will reduce the margin of error, even though they will not solve the whole investment dilemma (Cohen *et al*, 1987).

One of the tools used by technicians to forecast security prices is the Dow Theory. Even though price movements of securities have been studied since the beginning of trading in securities, the Dow Theory is the first widely popular technical tool for analyzing and predicting movements. This theory has often been used to forecast the movements of individual stocks, but it was originally created to forecast future movements of the entire market for stocks. The theory affirms that future movements of the market can be predicted by analyzing past movements of the Dow Jones Industrial Average[6] of 30 stocks and the Dow Jones Transportation Average of 20 stocks, believing that by studying these two averages it can be predicted where all the other stocks are going (Latané and Tuttle, 1970).

According to the Dow Theory, there are three movements in the markets: a) daily fluctuations (this means movements from day to day); b) secondary movements (short-run movements over two weeks to a month or more); and c) primary trends (movements covering at least four years in duration). Daily fluctuations are considered meaningless, but daily asset

[6] According to Latané and Tuttle (1970), the Dow Jones Averages are the best-known and most widely used market performance measures.

prices or the market average must be plotted to outline primary and secondary trends. The Dow Theory searches this way for price patterns revealing market tops and bottoms (Lee *et al*, 1990).

A theory of contrary opinion is the Odd-Lot Theory. It affirms that the collective decisions of small investors, in this case investors who buy in odd lots (less than 100 shares), are most of the time wrong. For this reason, the intelligent investor should look at what the small investor is doing and then do quite the opposite. For example, if the market indicator is rising at the same time that small investors are buying more than they are selling, the intelligent investor should sell, since small investors are supposed to be doing the wrong thing. It should be mentioned that this theory has not been demonstrated applicable to individual securities (Latané and Tuttle, 1970). In additional it can be said that this theory is based on very subjective criteria and, for this reason, lacks of a scientific ground.

Fundamental Analysis

This type of security analysis uses earnings and dividend prospects of the company, expected future interest rates and risk evaluation of the firm to find out appropriate stock prices. It is complemented with detailed economic analysis of the management of the firm, among other things, but also the prospects for the industry as a whole. The goal of fundamental analysis is to obtain a forecast of future performance of the firm not yet identified by the rest of the market, and not only to identify good firms, but to find firms that are better than what everyone else believes. It is important to mention that also poorly run companies can be a great deal, if they are not as bad as their stock prices reflect (Bodie *et al*, 2002).

Fundamental analysis believes that there is an intrinsic value[7] for the aggregate stock market, different industries or individual securities, and that this value depends on underlying economic factors. If the market price is below the intrinsic value, one should buy the security and, if it is above, one should sell it (Reilly, 1994).

How does fundamental analysis work? Fundamental analysis tries to find the "real" value of securities, as opposed to its "market" value, but it is important to note that the EMH considers that the best estimate of a company's value is the present market value. New information is quickly incorporated into the share price. Therefore, it is not necessary to analyze the appropriateness of the current stock price; the investor can accept the present market price as the best estimate of the intrinsic value, especially in the case of highly competitive securities markets, since they price assets efficiently (Dobbins *et al*, 1994).

Usually the fundamental analysis involves analysis of the firm and the industry. When analyzing the firm, financial statements, such as the balance sheet and the income statement, offer important data. The balance sheet shows the assets and liabilities of the firm, and the difference of the two is the net worth, indicating what the firm is worth in an accounting sense. But the balance sheet may not even list all of the company's assets or its liabilities.

[7] Intrinsic value means the actual value of a security, as opposed to its market price or book value. The intrinsic value includes other variables such as brand name, trademarks, and copyrights that are often difficult to calculate and sometimes not accurately reflected in the market price. One way to look at it is that the market capitalization is the price (i.e. what investors are willing to pay for the company) and intrinsic value is the value (i.e. what the company is really worth). Different investors use different techniques to calculate intrinsic value.

These hidden assets are in most cases a lot more worth than the ones revealed on the balance sheet and fundamentalists spend a lot of time and effort looking for them (Winger and Frasca, 1995).

When analyzing financial statements it is essential to know that not only individual values are important. A ratio of two significantly related values can create new information with additional value, for example solvency ratios, which measure to which extent the company can meet its short-term obligations (Francis, 1988).

Financial statement analysis helps analysts to understand a company's current situation and also where it may be going. This way companies likely to go bankrupt can be identified. Usually the analysis of financial statements includes a short corporate history, a description of the lines of business, a listing of the most important competitors and the key business challenges facing the firm. Assets represent the company's economic resources, having the potential of generating economic benefits, while liabilities are the claims on these economic resources. One of the hidden assets could be the capabilities of the company's management team. Often it is the most valuable asset but it will not be found on the balance sheet; large liabilities are in some cases just footnotes in the company's annual reports (Sharpe *et al*, 1999).

The income statement is a listing of revenues and expenses, showing the results of a company's operations over a certain period. Its objective is to show the net income or loss earned. But like the balance sheet, the income statement should not be totally relied on as the absolute truth of a company's earnings performance, since the net income is only an accounting concept formed by accounting rules and some of them are quite controversial. However, ignoring net income would as well be a mistake, because in most cases it provides a reasonable estimate of a firm's earnings strength (Winger and Frasca, 1995).

Firm analysis helps to find good companies, but the quality of the firm does not need to reflect the desirability of the firm's stock as an investment. One has to compare the intrinsic value of a stock to its market value, in order to find out if one should invest in it. The stock of a great company can be priced so high that the value is below its market price, so that one would still not want to buy the stock of this wonderful firm. On the other hand, the stock of a company that does not seem to be doing so well when it comes to its earnings growth, may have a stock market price below its intrinsic value and it would be a good decision to invest in it (Reilly, 1994).

The industry analysis is concerned with how the economy affects the industry and how the industry affects a specific company. It is also concerned with the new technological developments likely to emerge in the industry being analyzed. In other words, industry analysis consists in linking industry performance to performance of the economy, finding new developments within the industry and linking industry performance to the performance of the company. It is important to know that not all firms move in the same direction as the industry. This has a lot of reasons, for example the cost structure, the product mix or the geographic region in which the firm is operating. However, it is significant to determine how the individual firm will react to industry changes, since changes in the industry lead to changes in the earnings of the firm (Winger and Frasca, 1995).

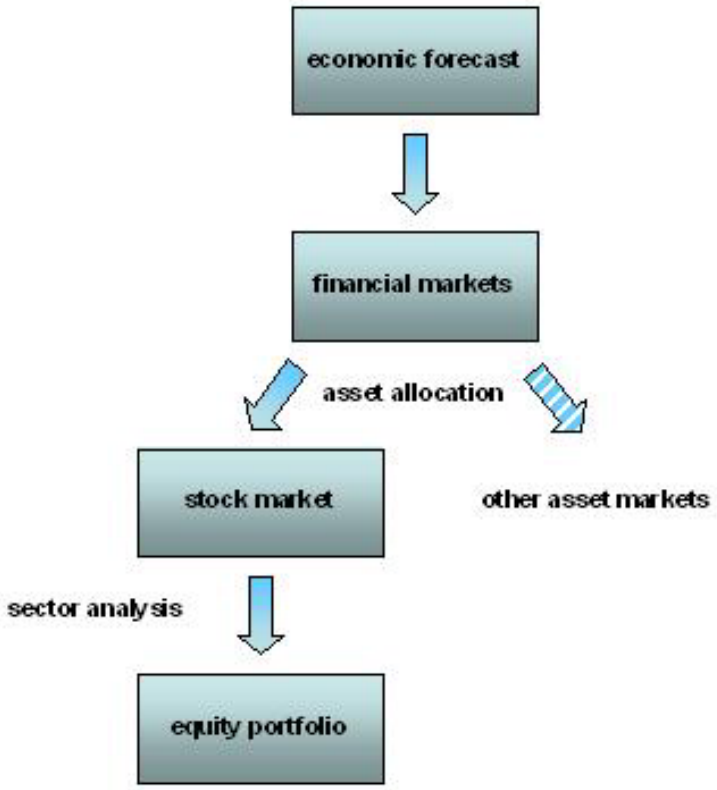
Even for industries with no strong industry influence, industry analysis is important, because it is easier to select a better firm from a good industry, than to find a good firm in an

unhealthy industry. By selecting the best stocks in an industry with good prospects, one avoids the risk that the analysis and selection of a good firm is offset by low industry performance.

Average stocks in a growth industry generally outperform the best stocks in a stagnant industry, and this is just one reason why industry analysis is an important part of security analysis and of the investment decision-making process. It should also be taken into consideration, that even though all the firms in a particular industry tend to be similar, there are still differences between these competing firms, so it is necessary to supplement industry analysis with firm analysis (Francis, 1988).

Top-Down and Bottom-Up Approaches

There are two major investment styles related to fundamental analysis. These are following: a) the top-down approach; and b) the bottom-up approach. The top-down approach starts with an evaluation of the whole economic environment, making a general asset allocation decision depending on the attractiveness of the different sectors of the financial markets, such as stocks, bonds or real estate. Figure 4 represents this process:



Source: Fabozzi 1994.

Figure 4. The Top-Down investment process.

When financial analysts use a top-down approach, they first make predictions for the economy, then for industries and finally for companies. The predictions for the industry are therefore based on the forecasts for the economy, and the predictions for the companies based on both, predictions of the economy and the industry (Sharpe *et al*, 1999).

As mentioned in Fabozzi (1995), the top-down approach focuses on economic and market cycles, while the bottom-up approach focuses on the analysis of individual stocks, seeking out the ones with attractive characteristics.

The bottom-up approach starts with forecasts for companies and based on that, forecasts for the industries and the economy are made.

In practice, a combination of the top-down and the bottom-up approaches is often used. A forecast for the economy can be made in a top-down way and based on this financial analysts make bottom-up forecasts for individual companies. The sum of the individual forecasts should be consistent with the forecast made for the economy (Sharpe *et al*, 1999).

For several experts fundamental analysis is the more valuable form of security analysis, since there are several reasons for being suspicious of the validity of technical analysis. Besides the fact that academic research claims that share prices move randomly and this way the next price for a stock is not predictable from past prices, there are lots of different methods of chartist analysis and two technicians using the same method will often come to different conclusions about whether a stock should be bought or sold (Lofthouse, 1995).

But even though much of technical analysis seems to be illogical, there has been some success in predicting short-term trends and price movements. Fundamentalists argue though, that part of this success is due to the fact that, if lots of investors buy a stock when it is penetrating a resistance line, then the value of the stock increases sharply due to the demand for it. Technicians respond that many investors can simultaneously discover a hidden underlying value in the stock and this fact encourages them to buy the stock increasing its market value.

Summing up can be stated that the use of an active portfolio management strategy has, among others, the following advantages and disadvantages:

Advantages:

a) managers make decisions based on experience, judgment and prevailing market trends;
b) managers aim is to beat the market, this means earning abnormal returns;
c) managers can make changes if they believe the market may take a downturn and this could reduce the possibility to lose money.

Disadvantages:

a) higher fees and operating expenses;
b) mistakes may happen. There is always the risk that managers may make unwise choices on behalf of investors, which could reduce returns;

c) style issues may interfere with performance. At any given time, a manager's style may be in or out of favor with the market, which could reduce return.

PASSIVE PORTFOLIO MANAGEMENT

Characteristics of a Passive Strategy

The second management strategy that is going to be considered is the passive portfolio management. In Bodie *et al* (1989), passive portfolio management is defined as:

> "… a strategy of holding a well-diversified portfolio of generic security types without attempting to outperform other investors through superior market forecasting or superior ability to find mispriced securities."

In other words, passive investment management makes no attempt to distinguish attractive from unattractive securities, or forecast securities prices, or time markets and market sectors. Passive managers invest in broad sectors of the market, called "asset classes or indexes" and, like active investors, want to make a profit, but accept the average returns various asset classes produce. Passive investors make little or no use of the information active investors seek out. Instead, they allocate assets based upon empirical research delineating probable asset class risks and returns, diversify widely within and across asset classes, and maintain allocations long-term through periodic rebalancing of asset classes. A passive strategy avoids any type of security analysis, meaning that no resources should be dedicated to acquiring information on stocks because there are not going to be useful to beat the market and, for this reason, it is better to follow a neutral diversification strategy. Even though this might appear a little naive at first sight, forces of supply and demand in large capital markets make this strategy a rational option to lots of investors (Bodie *et al*, 2002).

According to some expert's opinion, passive management stands on solid theoretical grounds, has enormous empirical support and works very well for investors. At the end of 1973 there was US$50 million invested in index funds. Today, there is roughly US$1 trillion invested in passive portfolios of all sorts in the U.S. and abroad.

A rather impressive group of investors worldwide believes it is difficult to beat markets and perhaps is better not to try. These investors are responding to a mountain of evidence that markets work. Such investors believe that in every asset class they choose, their best course of action is to accept market returns (Sinquefield, 1995).

Passive managers make no forecasts of the stock market or the economy, and make no efforts to distinguish attractive from unattractive securities. A passive manager invests in large domestic stocks making no determination of who is the best. Instead, a passive manager simply buys stocks from every large company resulting in a portfolio with hundreds of different stocks. Once assembled, turnover is very low since every stock is intended to be held indefinitely. Portfolio adjustments are made only in response to fundamental changes in the underlying universe of stocks.

The passive strategy involves small management fees due to a minimal managerial effort. There is also a free rider benefit. When active investors rapidly bid up prices of undervalued assets and force down prices of overvalued assets, one can conclude that most assets will be fairly priced. For this reason, a passive strategy may not be inferior to the strategy of average active investors (Bodie *et al*, 2002).

As mentioned in Dobbins *et al* (1994), the investors who believe in the EMH will pursue a passive strategy. They will identify the required level of market risk and then, for example, use an index fund. This type of passive strategy, also called indexing, is the most followed one and consists in constructing a portfolio to track the total return performance of the selected index. Besides indexing there is another passive strategy called "buy-and-hold", which involves buying a portfolio based on some criteria and holding it over some investment period.

Index Funds

An index fund tries to match a market index by buying securities included in the index and in the same proportion as well. Investing in an index fund is a low-cost way of following a passive investment strategy (Bodie *et al*, 2002).

As suggested in Gastineau (2002), indexation was developed to create a fund that represents a significant and consistent segment of the market, without using traditional stock selection methods that produce high turnover. The first index fund was created in 1971 and since then indexing has grown quickly. The reasons for this rapid growth are a rising acceptance of modern portfolio theory and the introduction of negotiated commissions in certain countries, such as the U.S., allowing index fund managers, not needing brokers' research, to deal at low cost.

The first aspect that has to be considered when setting up an index fund, is which index will be used as the benchmark. Some indexes are better for tracking than others, since there are indexes with a large number of non-investable stocks; this means stocks in which the index fund cannot invest.

Index funds are not popular to everyone and there has been recently enough criticism against the use of index funds to beat the market. Hungry investors like to chase performance and dislike buying index funds, giving up all chances of beating the market. There is also not much money to be made running index funds and many firms would love indexing to lose popularity (Bodie *et al*, 2002).

Portfolio managers often look for index funds to fulfill the need of an asset class in order to achieve better diversification. The use of index funds to get representation of an asset class may be easier and less costly when it comes to research and commissions, offering the same or even better performance than specific security selection (Reilly, 1994).

According to Elton and Gruber (1995), index funds have outperformed more than 50% of active managers. Of course there is always a chance of beating the market, but one cannot count on it. After subtracting investment costs, most active investors will lag behind index funds. An indexing strategy will beat most funds in most years, but there will always be some funds that in a given year outperform the index. This will lead to publicity and encourage investors in their intents to beat the market.

Index funds constitute a threat to saving institutions, since they make costumers pay high management fees. This explains the lack of interest in offering index funds, even though they have a number of important advantages. According to Aftalion (2001) these advantages are the following:

a) lower operating expenses than active funds (0,3% in the U.S. per annum; in the case of active funds the average is 1,45%);
b) transaction costs are closed to zero, compared to an average of 1% for active funds;
c) precise diversification by selecting index funds with sectoral or national indices.

Selecting the right benchmark of an index fund is important, since the wrong choice can produce unexpected risks, such as poor diversification. But there are also risks related to the replication techniques of the asset management company, even though the risk of the right choice of the benchmark is the one requiring more attention in investment decision (Blanchard, 2001).

Index funds give up the change to outperform an index for the security of not underperforming. Managers tend to be either for or against index funds, but there is no reason why a mainly active manager should not hold index funds for areas where he has not enough expertise. There are different methods of indexation but the most important ones are full replication and stratified sampling. Full replication consists in buying all the stocks in the index and in the same proportion. This can be tedious since a large number of stocks may have to be bought, but also a large number of dividends handled and reinvested in the right proportions. The fund has as well to be adjusted for right issues, acquisitions and changes in the index. A fully replicated fund will track its index closely but not exactly, since the index does not have the costs involved with setting up the fund, re-investing dividends and custody. On the other hand, the stratified sampling approach consists in holding only a sample of stocks in the index (Lofthouse, 1996).

It should be pointed out that there is a limit to indexing. It seems understandable that, the more capital involved in indexing and the less active investors pushing prices back in line, the farther prices will drift from their fair value, creating more opportunities for active investors to buy low and sell high (Etzioni, 1992).

Once an investment manager has decided to follow an indexing strategy and has selected a benchmark, the next step is to create a portfolio that will track the index, with the purpose of minimizing the difference in performance between the replicating portfolio and the benchmark. According to Fabozzi (1994), this difference in performance is referred to as tracking error (TE), measured using the following formula:

TE = total return on replicating portfolio – total return on the benchmark

As mentioned in Lofthouse (1996), tracking error is an important control measure. If the change in the index and the change in the portfolio are measured daily, one can verify whether the tracking error is behaving randomly. If it is behaving non-randomly or growing in size, the index fund should be re-balanced, meaning stocks should be bought and sold to

match the index closer. The strategy of indexing is to have a tracking error of zero, but the pursuit of lower or zero tracking error may lead to higher transaction costs, because the manager will have to trade more of the stocks in the index that are relatively expensive to buy and sell. If a manager's priority is accurate tracking, then he/she may be willing to incur higher transaction costs, but if a manager is worried about reducing trading costs, he/she will trade only the more liquid issues in the index, taking the risk of underperforming or outperforming the index (Fabozzi, 1989).

Summing up can be stated that the use of a passive portfolio management strategy has, among others, the following advantages and disadvantages:

Advantages:

a) low operating expenses;
b) there is no action required by the managers or investors.

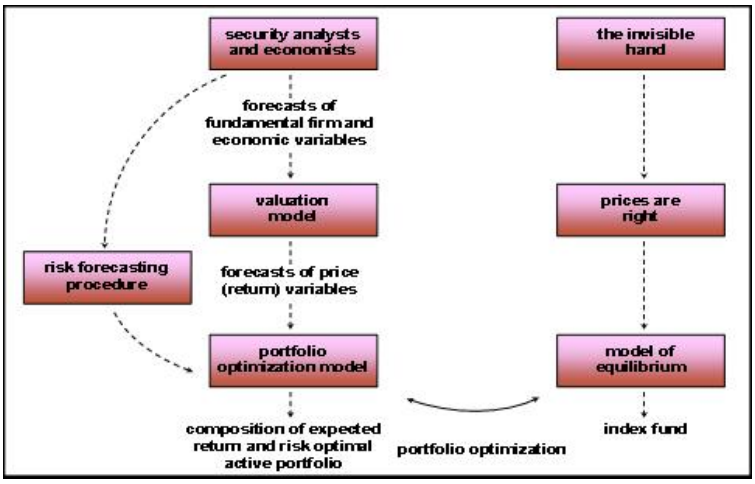
Disadvantages:

a) performance dictated by index. Investors must be satisfied with market returns because that is the best any index fund can do;
b) lack of control. Managers cannot take action. Index fund managers are usually prohibited from using defensive measures, such as moving out of stocks, if the manager thinks stock prices are going to decline.

SELECTION OF THE BEST PORTFOLIO MANAGEMENT STRATEGY

The debate about which is the best portfolio management strategy began in the early 1970s. By then several researchers had found considerable evidence that past prices were of little benefit in forecasting future prices when it comes to make excess profits, and that fundamental data was too quickly reflected in prices to permit such data to be used to beat the market. But there was also enough evidence that professional money managers could simply not outperform markets in a meaningful way. Passive management believes that one is going to get market rates of return from whatever category one is investing in, for example, if one invests in stocks, one will do no better or worse than the market over time. Passive management supporters believe that one is not going to be able to do much better than that, because the market does not misvalue securities (Sinquefield, 1995). The two portfolio management strategies are reflected in Figure 5:

A few years ago it was easy to argue over management styles for common stocks, since there were passive and active managers, the first ones holding a market index and the others doing something in addition. But there have been some developments, especially in the field of passive management, and the line between these two management styles is becoming blurry (Elton and Gruber, 1995).



Source: Elton and Gruber, 1991.

Figure 5. Modern version of traditional approach.

To passive managers, regardless of how smart or how informed active managers are, each of them has only an insignificant fraction of the information available to the entire market at any point in time. It is not possible that there is one person who systematically has more information than the entire market. This information changes second by second and how is someone going to be able to come to better conclusions than the worldwide market, which is setting huge amounts of prices every moment. Even though for several managers it seems that active management does not make sense theoretically and is not justified empirically, it is easy to understand its seductive power. After all, it is exciting to pick stocks and time markets with someone else's money and to get paid high fees for it.

Passive management, on the other hand, has a solid theoretical basis and enormous empirical support, besides working very well for investors. A remarkable group of investors worldwide believes that it is difficult to beat the market and that in every asset class they choose, the best action is to accept market returns (Sinquefield, 1995).

Based on what has been said above, the main questions that all managers are trying to answer are the following: Is the market unpredictable? And why is the market so difficult to beat? The answer to the first question is the following: there are thousands of stock market experts, mutual fund managers, private money managers and advisors, trying to beat the market. Some will make spectacular calls and accurate predictions. However, extensive research has shown that, as a group, the performance of experts is what would be expected from chance guessing, because there is no way of knowing in advance who will make the right call, and because not necessary past success is unrelated to future performance. Economists in both, the public and private sectors, provide a continuous series of data and forecasts in an attempt to predict future economic and investment trends. But, at the same time, numerous studies have indicated that economists cannot predict major turning points in the economy and it is very common to find that available economic data is of poor quality and subjected to frequent major revisions.

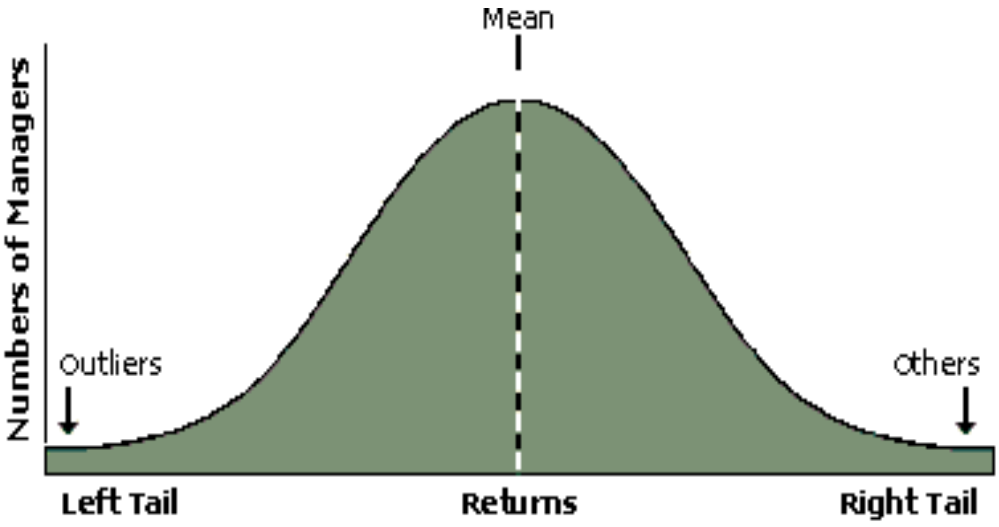
The answer to the second question can be presented through the following five relevant elements. First, it is important to note that accurate forecasting is an extremely challenging

task because economies and financial markets are complex adaptive systems, filled with positive feedback loops and nonlinear effects caused by the interaction of competing strategies. At the same time, investor decisions are made by people on the base of imperfect information and limited knowledge capacities, often made under great lack of time, affected by emotions and subject to the influence of others.

In addition to what has been said before, it is important to single out that the use of mathematical models to forecast the market is not a simple task because: a) the use of such complex models needs that the user has specific knowledge on how to use it; b) the conditions under which the mathematical model will be used should be very clear; and c) the data to be used in the mathematical model should be as accurate as possible, should cover a long period and respond to a certain patterns. However, advocates on either side of the debate have been guilty of ignoring the rules of science, and as such, have formed numerous arguments that would not pass the scrutiny of a basic high school science fundamentals class. Science demands objectivity. Science does not permit conclusions to be drawn from inconclusive observations. Science demands truth. Science is provable. If one contrasts the truth and reality of science to the supposed evidence heard from either side of the debate, it can be seen that these studies have not been done by scientists, or at least have not been done by scientists that choose to use their scientific discipline in carrying out these studies. When a conclusion is drawn based on data that might be evidence (or is unknown to be evidence), it fails the basic tenets of science. Science follows the law of causality. If one does not know whether the data is a definitive result of a specific cause, one cannot draw a definitive conclusion from it. In science, such observations are anecdotal, or at best a theory yet to be proven" (Loeper, 2003). Second, portfolio constraints often mean that accurate forecasts are not fully translated into portfolio positions. Third, accurate forecasting must be based on some combination of relevant information and the use of efficiency and accurate mathematical models to forecast the market prices. Fourth, successful active funds usually accept new fund inflows, even though this leads to lower returns. Fifth, a significant portion of the returns above the benchmark index generated by actively managed funds is usually lost due to their higher expenses and greater tax liability generated by their higher trading volumes.

When confronting passive management proponents with the fact that there are managers out there who do beat the market, they will reply that there will always be some people who beat the market, but it cannot be predicted who they are in advance. They believe that investors are far better off buying the index funds that include the types of stocks chosen by investors, saving time and money. In a normal and bell-shaped distribution curve of returns on investment portfolios, as shown in Figure 6, the majority of the returns can be found in the bell centering around the weighted average return for the whole market. At the ends there are the "outliers"; those managers with very bad returns on the left side and those with very good returns on the right side. According to Figure 6, only few managers are either very good or very bad (Tanous, 1997).

According to Bodie *et al* (1989), casual attempts to select stocks are not expected to pay off. Competition makes sure that any easily applied stock evaluation method will be used widely enough, so that any insights generated will be reflected in stock prices. Only costly and time-consuming techniques are expected to create profits and these techniques are only practicable for managers of large portfolios. But will any mispricing be able to refund the costs involved in active management? In order to be effective, active management has to overcome the following costs (Elton and Gruber 1995):



Source: Tanous, 1997.

Figure 6. Normal Distributive Curve.

a) costs of paying the analysts in the form of salaries or higher management fees compared to passive managers;
b) cost of diversifiable risk, due to the fact that active portfolios have more diversifiable risk and the investor has to be recompensed for it;
c) higher transaction costs due to high turnover.

Active investors must overcome some other costs such as trading costs, market impact costs as active managers affect the prices they pay, dilution from maintaining higher cash positions than passive managers, taxes in taxable accounts due to high turnover rates, and commissions, if an investment "product", like a mutual fund, is purchased through a broker or financial salesperson. These costs create a handicap for the active investor of 2.5% to 9% per year, depending upon asset class mix, and whether a salesperson is involved. The least expensive forms of active management, no-load mutual funds and "wrap fee" accounts, typically consume 2.5% per year from investor's returns, while the average passive or index portfolio costs under 0.5% per year.

In the real world investment managers use active management seeking profit by exploiting apparent market inefficiencies, regardless of the EMH, and there is a motivation to believe that active management can be successful. Market efficiency prevails when investors depart from a passive strategy, adding up mispriced securities to their portfolios, expecting to realize immense profits. This competition for abnormal returns guarantees that prices move near their fair values, and even though most managers will not beat the passive strategy on a risk-adjusted basis, exceptional managers might do it. There is some economic logic behind this: If no analyst can beat the passive strategy, investors will move away from expensive analysis strategies to less costly passive strategies. If this happens, portfolios under active

management would disappear and prices would no longer reflect sophisticated analysis. The resulting profit opportunities will attract back active managers, who once again will turn out victorious (Bodie *et al*, 1989).

There is in fact empirical evidence that active management can be successful. Some portfolio managers have achieved abnormal returns that cannot be considered as lucky outcomes, even though the margin is statistically small. So there is a role for active portfolio management, even when security markets are almost efficient. Higher profits may be very hard to earn, but without them the active management industry would be ruined and in the long run prices would move away from their efficient levels (Bodie *et al*, 1989).

As mentioned in Haas (2001), today active management is under a lot of pressure, due to the fact that active portfolio risk has become an important issue and tracking error a main concern. This has forced a lot of active managers to imitate the composition of the benchmark in their portfolios. According to Dobbins *et al* (1994), an interesting option would be to adopt an active-passive strategy. Maybe 80% of the fund can be passively managed by indexation, and the other 20% can be actively managed, in particular where the manager has:

a) skills in predicting market movements;
b) investment know-how in forecasting returns on individual securities;
c) inside information and, of course, is familiar with the legal aspects involved with it.

The grade of efficiency varies across markets and it seems clear that active managers in more efficient markets will have more difficulty outperforming their benchmarks, than their counterparts in less efficient markets. On average, managers in less efficient markets have successfully outperformed their benchmarks and achieved higher active returns for taking more active risk, but in general this is not true for managers in more efficient markets. Due to this, more passive strategies should be incorporated in efficient markets (Flood and Ramachandran, 2000).

When it comes to answering the question if the EMH is strong enough to make any effort to find undervalued securities worthless, and instead investors should be encourage to put their money in an index fund, it seems that the answer is not a simple yes or no. There are different aspects that should be taken into consideration (Winger and Frasca, 1995):

a) the evidence appears to be sufficiently strong to discourage the use of technical approaches involving frequent trading and enriching only the broker;
b) the evidence also seems strong enough to discourage the use of fundamental analysis based only on public information and techniques used by everyone else;
c) there are hopes for higher profits in the case of small companies, trying to find information other investors do not have and maybe choosing an industry one is familiar with.

According to Sharpe *et al* (1999), in this whole active-passive strategy debate there is also a moralistic appeal from many active managers. They believe that investors have practically an obligation to find mispriced securities, since this will remove mispricing and lead to a more efficient capital allocation. Active managers also accuse passive management of pursuing just mediocre performance. Passive managers do not deny that there are exploitable profit opportunities and that some managers have achieved extraordinary performance results, but they also believe that the capital markets are efficient enough to only allow a few people with inside information to achieve constantly abnormal returns, and that enough successes are more a result of luck and not skill. They also argue that passive management has higher expected returns due to lower management fees and transaction costs. Therefore, passive management outperforms active management, because any financial market is a zero-sum game, meaning that after costs and taxes, the average actively-managed dollar (in the case of the U.S.) will always underperform the average indexed dollar, and as a result, the markets in which all these dollars are invested. This is a simple law of arithmetic (Bogle, 1999).

It is important to note that there are some significant exceptions for investors with a long time vision, based on which active managers makes the most sense. The first exception is that, over the course of an investing lifetime, there is a possibility to be in possession of additional private information, which is not illegal, but could be used to create the opportunity for an active management success. The second exception is when the investor has frequently written about situations in which one or more asset classes appear extremely overvalued. When these situations occur, and when the asset class in question is well above its target weight in the manager portfolio, prudent risk management demands that manager make an active management decision. The third exception is an asset class (e.g., timber, or, in some regions, foreign currency bonds) where no indexed investment vehicle is yet available, or where current indexing methodologies are questionable. The fourth exception is the most challenging: All managers know that in hindsight, it is possible to identify active managers who have outperformed a comparable index fund.

It can be concluded that there are some good and some bad news about the outcome of the debate regarding the use of an active or passive strategy to beat the market. The good news is that investment analysis and portfolio management is not an art that has been lost and that it is still waiting for those willing to increase their efforts and accept the pressures. The bad news is that many brilliant and hardworking people have created a fairly efficient capital market in which it is very difficult for most analysts and portfolio managers to achieve greater results (Reilly, 1994).

Finally, from the perspective of portfolio management, the dilemma of market efficiency boils down to whether skilled investors can produce consistent abnormal profits. The best way to find out if this is the case is by looking at the performance of mutual funds, which will reveal if active funds are able to outperform passive index funds (Bodie *et al*, 1997).

PERFORMANCE ANALYSIS OF MUTUAL FUNDS

Definition of Investment Company and Mutual Fund

Fabozzi (1994) defines an investment company as "a firm that sells shares to the public and invests the proceeds in a diversified portfolio of securities". The investment strategies of an investment company can range from high-risk active to low-risk passive portfolio strategies, and there are several advantages from buying shares of investment companies, rather than buying investments directly in the market. Here the investor not only obtains larger portfolio diversification, but also the services of professional money managers at less cost than hiring a money manager directly.

The investment company has as its major assets the portfolio of marketable securities, also referred to as a fund. The management of the portfolio is in the hands of a separate investment management company and its major duties are investment research, management of the portfolio and also administrative duties, such as issuing securities. Many management companies have a variety of funds with diverse characteristics, allowing investors to switch among funds when their preferences change. This flexibility helps to increase the total capital managed by the investment firm (Reilly, 1994).

A lot of investors do not have enough resources to create adequately diversified portfolios on their own, so they turn to pooling arrangements which offer not only diversification, but also professional money management. By pooling resources with those of other investors, people are encouraged to invest in areas that they otherwise would avoid because of high risk or the need for specialized knowledge (Winger and Frasca, 1995).

The most popular pooling arrangement are the so called "mutual funds", which are open-end investment companies, continuously ready to sell new shares to the public and trade in its outstanding shares at a price equal to a proper share of the value of its portfolio (Fabozzi, 1994).

Mutual funds are important for two reasons. First, their managers invest a lot of money for a lot of people, and second, the performance of a mutual fund is a public record issue, since the results are considered to be part of the performance of professional security analysts and investment managers (Sharpe, 1970). However, it is important to note that mutual fund managers may have a conflict of interest because of the way they are paid. In particular, mutual fund managers are sometime encouraged to make risky investments that are not in the best interests of unit holders, and to over-concentrate their holdings. Mutual fund investors, on the other hand, would tend to benefit from less risky investments and greater diversification. Many mutual fund investors choose funds that have better than average performance numbers in a past period believing that a fund which has done well in the past will do well in the future. They accept this criterion as a real fact because mutual fund companies actively promote and market their best performing funds to the public. However, there are experts that have the opinion that mutual fund performance is not a real indication of future abnormal returns.

There are different types of mutual funds: a) equity funds and b) fixed-income funds. Equity funds invest mainly in stock while fixed-income funds focus on the fixed-income sector, like in the case of corporate bonds. Mutual funds are managed by management companies, which organize a compilation of funds and collect a management fee allowing

investors allocate or switch assets while profiting from centralized record keeping (Bodie *et al*, 2002).

Mutual funds offer significant diversification and an investor would have to pay very high transaction costs in the case of direct investment, to acquire the same amount of diversification. Therefore, mutual funds are a rational option for small investors with limited capital. There are two types of transaction costs related to mutual funds: a) the costs when buying and selling securities and b) an initial charge to the buyer of the fund.

When it comes to how to manage the portfolio of an investment company, there is no universal portfolio strategy followed by all fund managers, due to the fact that each fund has its own investment objective and policy. There is also a difference when it comes to the restrictions imposed to manage the fund and the liquidity requirements. But all fund managers have also something in common: minimizing the costs of operating a fund, since the performance of a fund is measured by its annual total return, after all fund operating expenses and the costs of portfolio transactions have been taken into consideration (Fabozzi, 1994).

It is important to point out that most mutual funds are actively managed portfolios, even though recent studies have indicated that there is a difference between the academic view of portfolio management and the active practices of some of the mutual fund managers.

TYPE OF MUTUAL FUNDS

There are two groups of mutual funds: a) active funds and b) index funds. Managers of active funds are always trying to maximize their performance while managers of index funds replicate purely the performance of a benchmark index. Investment in an active fund has the advantage of generating returns superior to those of a benchmark index, but according to Aldrich (1987), mutual fund data reveals that 75% of mutual fund managers underperform their indexes. Investment in an index fund, on the other hand, ensures performance relative to the selected benchmark (Aftalion, 2001).

According to a Capital Financial Group paper entitled "Active versus Passive Management", "the year 2008 was a veritable *annus horribilis* for the fund management industry, with a wave of redemptions combining with market declines to produce a severe fall in assets under management. Across Europe, investors withdrew a net US$506 billion from mutual funds in the first ten months of 2007, according to Lipper FMI, as industry assets plunged 25% year-on-year. Despite modest buying in the U.S. and elsewhere, net outflows from mutual funds worldwide hit US$257 billion in the same period, according to Strategic Insight, a research house. But one investment niche stood out as a glowing beacon amid the darkness that of passively managed exchange traded funds. As of October 2008, ETFs had attracted US$187.5 billion of net new money globally with even the moribund European market witnessing inflows of US$1.6 billion. "There is a lack of faith in active management; active funds have been outperformed by passive in about 80% of cases. The switch to passive funds is an expression of a lack of confidence in active management," says Amin Rajan, chief executive of Create Research, a consultancy firm. When there is a market event, fund managers say we are long-only managers, what can we do about it? So what are you paying the fee for? Mr. Rajan was particularly scathing of absolute return funds, a voguish sector in which active managers should have more freedom to protect investors from market sell-offs by shifting the portfolio between asset classes. Yet the average fund lost 1.8% in 2008

according to Trustnet, well below their "cash plus" targets. "Absolute return strategies have not really delivered on the scale that anyone expected them to. The skills are lacking," said Mr. Rajan. The solution offered is the following: "You should diversify and at the extreme you go to passive. You are not putting all your eggs in one basket and it is a good way round the lack of skills". Most commentators believe the shift to passive investment is likely to continue, particularly in Europe where the proportion of assets managed in this manner is well below that in the U.S.

Based on what has been said in the previous paragraphs the main question to be answered is the following: What kind of risky strategy might an active manager follow? Over-concentrating the fund's holdings on a few securities in the hopes that one will pay off big, would be one strategy to be followed. Investing a disproportionate amount of money in highly risky small-caps, foreign securities, or various options and derivatives would be another strategy to be followed. In the opinion of many experts none of these investment choices are inherently bad, but if the goal is to increase the risk so as to increase the chances of abnormal or high returns, then this is probably contrary to the best interests of the fund's investors.

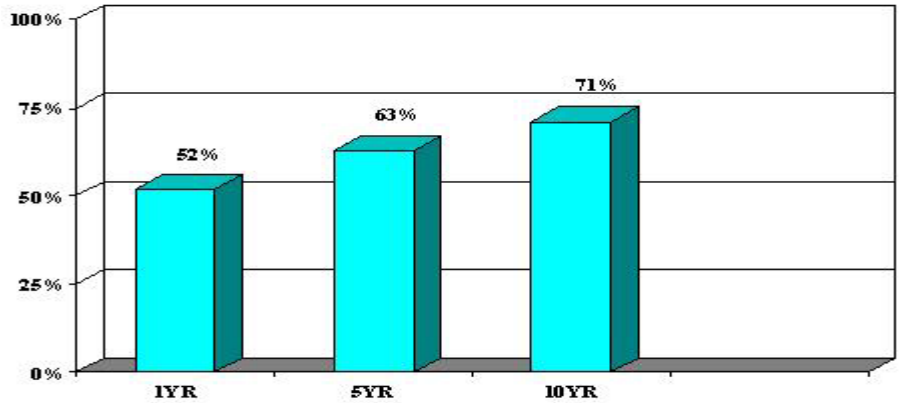
Within the risk strategy that an active manager can adopt, it is important to single out the following risk strategy concept: the downside risk. What is the essence of this type of risk strategy? According to the downside risk concept for an investor pursuing long-term goals, it is more important to avoid large losses than to have large gains. There are three key elements in the adoption of an effective downside risk strategy. These elements are the following:

a) it is important to have a portfolio that is well-diversified across broadly defined asset classes: the purpose to have a well-diversified portfolio is to maximize the probability of achieving an investor's long-term real rate of return objective, within acceptable shortfall and other constraints. This requires the use of advanced asset allocation methodologies, as well as techniques to limit the impact of parameter estimation errors;
b) automatic rebalancing strategy that keeps actual portfolio weights close to their long-term targets. The preferred approach is to undertake rebalancing only when one or more asset classes has exceeded or fallen below its target weight by more than a trigger percentage to be established versus a target weight.

However, it is important to stress the following. While diversification and rebalancing are necessary elements of an effective downside risk strategy, they are not by themselves sufficient when it comes to risk mitigation and, for this reason, the use of a third risk management approach based on the assumption that financial markets are a complex adaptive system, in which equilibrium is the exception rather than the rule, and substantial asset class over and undervaluation can (and do) occur.

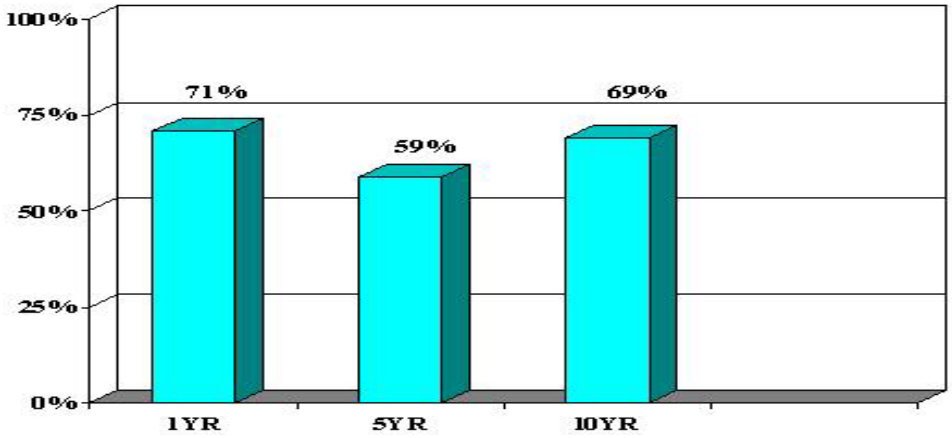
Based on what has been said in the above paragraphs, the question to be answered is the following: How, having moved out of one or more asset classes, an investor should decide when to reverse this action? The first reply to this question is that the extent of this challenge crucially depends on the standard an investor uses to measure his or her performance. If it is an external benchmark, then the investor must worry not only about moving out of an asset

class too soon, but also about getting back in too late, lest he or she underperform. In contrast, an investor who seeks only to achieve the long-term return needed to achieve, his or her goals faces an easier decision. When an asset class is substantially overvalued, it is far more important to avoid a large loss than to hold out for another month of gains. And when this asset class has substantially declined in price, he or she has flexibility in deciding when to reinvest in it, since its expected returns will be higher than those assumed in the asset allocation analysis that set the long-term asset class weight. Compared to an investor worried about underperforming an external benchmark, this investor will therefore be less likely to reinvest too early. The second response to the above question is that fundamental and scenario based valuation indicators can also be used to help make effective reinvestment decisions. Figure 7 shows the percentage of general equity mutual funds in the U.S. that have been outperformed by the Vanguard Sand P500 Index Fund, which is the largest mutual index



Source: Malkiel, 2003.

Figure 7. Percentage of General Equity Funds outperformed by the Sand P500 Index.



Source: Malkiel, 2003.

Figure 8. Percentage of European Funds outperformed by the MSCI-Europe Index.

fund accessible to the public. Over the 10-year period ending 31 December 2001, 71% of active equity funds have generated total returns inferior to those produced by the index fund, after expenses (Malkiel, 2003).

Index funds appear to be a successful strategy not only in the U.S., but in Europe as well. Figure 8 shows that 69% of the funds invested in European securities were outperformed by the Morgan Stanley Capital International Europe Index in the same period as in figure 7 (Malkiel, 2003).

The average active equity mutual fund changes its entire portfolio of more than 100 stocks every year. These trading costs are not included in a fund's expense ratio and this makes it difficult for active managers to beat their benchmark. The high expense ratios to support costly research departments make it even harder (Middleton, 2003).

According to Bogle (1999), there are a number of reasons why it can be expected that a large majority of actively managed mutual funds will continue to underperform the market in the future:

a) the investment costs associated with actively-managed mutual funds have generally trended upward over the last decade, despite the fact that huge amounts of money have been invested into active funds over this period;
b) the costs of investing in index funds have trended downward as they have become more popular;
c) financial markets all over the world are getting more efficient, making it more difficult for active money managers to outperform these markets.

CONCLUSION

Most capital markets seem to be nearly efficient and the performance analysis of mutual funds demonstrated that most active funds have not been able to outperform passive index funds; but does all this imply that an active portfolio management strategy is a waste of time and resources and that all managers should follow a passive strategy?

The analysis made in this article has shown that there is not a definitive answer to this question due to the following reasons: a) if all managers would follow a passive strategy, no one would be left to maintain security prices at a fair level; and b) the market would become inefficient and this would represent a new chance for active managers to create huge profits, till the market becomes efficient again. Most active managers cannot outperform the market after subtracting costs but they constitute the driving force behind efficient markets. Another reason is that there is in fact a group of people that has been able to outperform the market on a regular basis. It is important to mention though, that they have shown investment skills above-average and that this group is relatively small compared to the amount of people offering their investment management services to the public.

Based on what have been said above, what portfolio management strategy should be followed? The answer is the following: The strategy to be followed will depends of several factors, particularly the level and type of information that can be used to try to beat the market and the management skill of the managers. For this reason, most managers would be better served following a passive strategy, since they will not be able to beat the market on a regular

basis. By the contrary, those managers with superior investment skills might achieve abnormal returns using an active management strategy.

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