The impact of different investment strategies on reducing systematic risk in Tehran stock exchange

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Scientific findings indicate that the efficiency of different investment strategies is varied, so financial experts have classified these strategies from diverse perspectives. One of the most common categories as the major academic studies which have been done on this classification is passive, active and momentum strategies, but so far none has been done around correlation of investment strategies. In this study, we have tried to examine concepts in two major sections; first, investigation of investment strategies and second, correlation of strategies in Tehran stock exchange. Our statistical sample companies are listed in Tehran stock market from 2006 to 2010. We have excluded investment companies, because of high financial leverage and low trading or inactive companies. To study the main and subsidiary hypothesis, we used t-test for two independent samples, to compare, and in second section we used Pearson correlation coefficient. The result indicated that real and legal investors intended to provide portfolios with optimum risk and return in Tehran stock exchange (TSE) and should consider correlating between different investments strategies.

Key words: Correlation, investment strategies, portfolio management, systematic risk.

INTRODUCTION

In recent decades, investment theories have followed an evolutionary track and achieved practical formulas. Historically, it can be stated that trade and investment have followed the "acceleration of history" theory: there has been a substantial increase in the amount of trade and investment in the present century; especially, in earlier years of this century, growth rates of trade and investment have accelerated, and the existing technologies and their near-future changes will no doubt affect the growth rates, amounts and conduct of trade and investment. These changes affect the criteria adopted for decision-making of investors (Eslami and Farshad, 1996). Investment management consists of stock analysis and portfolio management. Stock analysis involves evaluating the benefits of each investment. But portfolio management involves analyzing investment mix and maintaining investment collections. In the recent decade, investment debates have shifted focus from the analytical selection strategies to portfolio management (Strong, 2000). Since the standard deviation of portfolio returns describes the volatility of returns around the expected level, and large deviation means that there is a significant probability that the actual return level will be different from the expected level, hence the standard deviation of returns is used in Markowitz's mean-variance model as a measure of risk. Many other portfolio selection models are variations of the mean-variance model. These models try to maximize the expected portfolio return under a given portfolio risk level, but they use risk measures other than the standard deviation. For instance, Konno and Yamazaki have introduced the absolute deviation and Markowitz has also proposed the semi-variance (Chan et al., 2004).

Background of the problem

Many studies have been conducted on investment strategies performance in other countries. None of them has dealt with active and passive investment strategies comprehensively. Studies conducted on developed stock markets include, inter alia (Capel et al., 1993; Haugen et al., 1996; Rouwenhorst, 1998, 1999; Fama and French, 1998; Bowman et al., 1998, 1999; Bigas et al., 1999). For
emerging markets, however, only few studies exist that investigate individual stock selections, which, moreover, have rendered conflicting results. For example, San et al. (1998) reported excess returns of passive and growth stocks of companies, while Fama and French (1998), Patel (1998), Rouwenhorst (1999) and Barry et al. (2002) reported excess returns of value stocks of companies.

Whereas the aforementioned studies considered only a limited number of strategies, Achour et al. (1998) examine a much broader range of trading strategies based on firm characteristics, but their sample includes only stocks from three emerging markets (Malaysia, Mexico and South Africa). Another study conducted by Hart et al. (2002) focused on the performance of value investment strategies, price fluctuations and investment returns. Eric and Li (2004) showed that there is a positive correlation between the sector rotation investment strategy and the market value of stocks. Stangl et al. (2007) also showed that the sector rotation investment strategy performs relatively well in respect to business cycles. In a study carried out on New York Stock Exchange by Campain (2010), which showed that the sector rotation investment strategy will outperform the market average if investors choose it correctly.

According to Acer et al. (1998), this strategy outperforms the market average in emerging markets. Jegadeesh and Titman (2001) showed that active stock selection strategies yield higher returns as compared to passive ones. Van Der Hart et al. (2005) showed that stock selection strategies yielded significant excess returns in emerging markets for a horizon of 16 years (1988 to 2004).


To determine which investment strategies yield higher returns is crucial to analysts and investment companies, since different studies carried out in different countries have yielded different results. Intensive research has been done on the efficiency of investment strategies in most stock markets all over the world. The main reasons to do so have been the lack of ability to analyze the capital market’s data and the lack of appropriate expertise on the part of the investors.

Significance of the study

One of the most important achievements in the active stocks management in recent years have been investment strategies for the growth stocks, value stocks, selective stocks and rotary stocks. In fact, it is a common fact that most managers of investment companies assign their portfolios ‘active’ or ‘passive’ labels. So far, no comprehensive research have been conducted about the investment strategies adopted in Tehran stock market, the main reasons of which are the lack of information, the lack of familiarity with the investment strategies on the part of those involved in the capital market and the investors, and also the lack of appropriate criteria for each strategy. This study enables both genuine and legal persons to adopt specific investment strategies based on the two basic factors in the capital management, risk and return, and decide more wisely about their investment opportunities.

Definition of portfolio management

Common stock portfolio management

Portfolio theory allows investors to evaluate their expected risk and return. Harry Markowitz explained how to get at the right, or the best, asset combination in a portfolio, and proved that such portfolios are likely to be more successful (Shariatpanahi et al., 2010).

Markowitz model

In 1950, Markowitz introduced the original portfolio model which provided a base for the modern portfolio theory (MPT). Although, investors were familiar with the concepts, risk and return before Markowitz, but they could not measure them. They already knew about the appropriateness of diversification. But, it was Markowitz who for the first time examined the concepts portfolio and diversification scientifically. He quantitatively showed the why and how a diversified portfolio can lead to a decrease in the portfolio risk (Leibwitz et al., 2009).

Portfolio management process

Before any stock trading, one must determine the investment policy, limitations of the expected return, risk tolerance and other conditions upon which a portfolio should be formed. It is necessary to determine such factors on the part of investors before one selects stocks or determine an efficient portfolio combination. Figure 1 is a process of portfolio management (Rae and Ahmad, 2009). In this study, we have tried to survey on kind of investment strategies, which explain these concepts.

Portfolio formation

Rational investors desire efficient portfolios, since such portfolios tend to maximize expected returns against fixed risk levels, or minimize risk for expected return levels
(Strong, 2000). Having learned the basic financial principles, one need to form a portfolio, which presupposes that one familiarize oneself with the concepts and elements of capital market, the mathematical functions applied in the portfolio theory and also with the concepts like portfolio risk and return and diversification (Connor et al., 2010).

Portfolio management and maintenance

Having formed a portfolio, one need to set out to bring the portfolio up to date and revise the expected goals of the portfolio. One can manage a portfolio actively or passively. Portfolio managers need also to familiarize themselves with stock valuation principles (options, derivatives). They should also familiarize themselves with portfolio performance evaluation methods. What was stated earlier showed a general picture of portfolio management process in order to provide a theoretical framework. In this regard, researchers have developed other more practical approaches to portfolio management. Figure 1 illustrates the portfolio management decision-making process (Raee et al., 2009). This process, as shown in the Figure 1, begins with determining investment goals. In this phase, the expected risk and risk tolerance of the investment are measured through investment statement summary. In the next phase, asset combination is determined which provides the best opportunity to get at the best return at the tolerated risk level, which is called assets allocation strategy; one constantly needs to change asset combination to achieve the best possible return. In the next phase, one needs to deal with the portfolio management strategies (active and passive) and stock selection which includes individual or group stock selections.

The final phase of the stock portfolio management deals with the performance evaluation which acts as a feedback mechanism. This study focuses on stock portfolio management strategies, which are detailed as follows (Riley and Brown, 2002).

Common stock portfolio management strategies

Portfolio management strategies deal with two general categories: stocks and bonds. Since these strategies are frequently used in portfolio management, and since no bonds are available in Iran’s capital market, this study deals with stock investment strategies. Stock portfolio management strategies are divided into two groups: active and passive strategies.

Nowadays, new strategies have been added to these two, which are discussed as new strategies in this work (Dobbins et al., 2005).

Active investment strategies: Although, there is no general consensus over active management styles, but active strategies are usually divided into three groups as follows (Farrell, 1987):
1. Stock selection strategies;
2. Sector Rotation strategies;

Passive investment strategies: Passive strategies, unlike active strategies which focus on the achievement of excess returns out of market fluctuations, focus on the long term performance of a specific part of capital market. In other words, a passive portfolio is one that is maintained, because of the lack of ability to predict. A passive portfolio aims to bring the portfolio return as close to the index to which it is benchmarked as possible. According to Oudin and Barber (2000), there are two kinds of passive strategies:

1. Buy and hold strategy;
2. Index investment strategy.

METHODOLOGY

Data

The data is sourced from the Rahavard Novin database provided by Tadbir Pardaz Investment Consulting (MIC). The sample period is January 2006 to December 2010. The number of sample is 124.

Population, samples and sampling methods

The population consists of all the companies involved in Tehran stock market. The time interval is from 1384 of the Iranian calendar/2006 of the Gregorian calendar to 1388 of the Iranian calendar/2010 of the Gregorian calendar.

The sampling method is judgmental. Since the sample (the whole population) should be consistent with some variables, the methods used in previous studies have been applied. The following methodology has been used for sampling:

1. Companies which were closed down more than 3 consecutive months in a single financial year.
2. Companies suffering from losses.
3. Financial intermediaries (the reason why financial institutions are not selected is their high leverage ratios, which is not necessarily indicative of their financial weakness). Fama and French (1998) excluded the financial institutions from their samples by the same reason. They believe that high leverage ratios are common for financial institutions, but it means something else to non-financial institutions, which puts these institutions under stress.
4. Companies with no stocks transactions within the last three months or so.
5. Companies whose financial year has not ended in the late Esfand (month end of year in Iran) were excluded from the chosen sample. The numbers of eligible companies were 183 in 2006 and 173 in 2010, while the final selection of companies used in this study was done based on their qualification.

Research variables and their calculation

For explanation and comparison of different investment strategies adopted in Tehran stock market, the following criteria were used:

1. The following criteria which can affect determining all kinds of growth and value strategies were applied: the ratios BV/MV, E/P, CF/P and D/P. Since the first two criteria are less affected by the management, they are regarded as the constant ratios in this study. BV/MV (book value-to-market value ratio) and E/P (earnings-to-price ratio) were used for determining growth and value investment strategies. These criteria’s (BV/MV and E/P) have been selected on reliability (Fabozzi et al., 2006).

RESULTS AND DISCUSSION

In this study, we have tried to reach of the goals examine hypotheses in two major ways; those of the first sects include evaluation on performance of investment strategies and second sect include correlation analysis of investment strategies of Tehran stock market. All assumptions and their results are presented briefly in Tables 1 and 2.

Correlation analysis

Since, according to financial experts and scholars, financial cycles in stock markets are usually three years, therefore hypotheses are proved or disproved in this study on the basis of three years.

Main hypothesis I

There are positive correlations between returns of growth investment strategies and those of active and passive strategies.

Subsidiary hypothesis I: There are positive correlations between returns of growth investment strategies and those of value investment strategies.

\[
H_0 : \rho = 0 \\
H_1 : \rho \neq 0
\]

Based on SPSS outputs, since the sig values for the years 2006 and 2007 are less than 0.05, the null hypothesis is rejected, and on the other hand, the alternative hypothesis is accepted. Accordingly, there is a positive correlation between the returns of growth investment strategies and those of value investment.
### Dependent variables

**Active strategies**

- Selecting portfolio
  - Intrinsic value (IV)
- Rotation portfolio
  - Expected return (ER)

**Passive strategies**

- Growth portfolio
  - \( \frac{MV}{BV} \) More of average
  - \( \frac{P}{E} \) More of average
- Valuing portfolio
  - \( \frac{MV}{BV} \) Less of average
  - \( \frac{P}{E} \) Less of average

**Contrarian strategy**

- Pricing momentum strategy
  - Price trend (PT)

### Independent variable

Performance of investment strategies

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**Figure 2.** Conceptual model components.

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### Table 1. Research hypotheses (related to first sect of research).

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Explanation</th>
<th>( H_0 ) and ( H_1 )</th>
</tr>
</thead>
</table>
| Main hypothesis I           | Growth investment strategy performs better than the value investment strategy in Tehran stock market | \( H_0 : \mu_1 \leq \mu_2 \)  
\( H_1 : \mu_1 > \mu_2 \) |
| Subsidiary hypothesis I    | Growth investment strategy present return more than the value investment strategy in Tehran stock market | \( H_0 : \mu_1 = \mu_2 \)  
\( H_1 : \mu_1 \neq \mu_2 \) |
| Subsidiary hypothesis II   | There is significant difference between growth investment strategy and mean of market return | \( H_0 : \mu_1 = \mu_2 \)  
\( H_1 : \mu_1 \neq \mu_2 \) |
| Subsidiary hypothesis III  | There is significant difference between value investment strategy and mean of market return | \( H_0 : \mu_1 = \mu_2 \)  
\( H_1 : \mu_1 \neq \mu_2 \) |
<p>| Main hypothesis II         | There is significant difference between the selective investment strategy and the rotary investment strategy in Tehran stock market |                                                                                   |</p>
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Description</th>
<th>Null Hypothesis</th>
<th>Alternative Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>There is significant difference between the selective investment strategy and mean of market return in Tehran stock market</td>
<td>$H_0 : \mu_1 = \mu_2$</td>
<td>$H_1 : \mu_1 \neq \mu_2$</td>
</tr>
<tr>
<td>V</td>
<td>There is significant difference between the rotary investment strategy and mean of market return in Tehran stock market</td>
<td>$H_0 : \mu_1 = \mu_2$</td>
<td>$H_1 : \mu_1 \neq \mu_2$</td>
</tr>
<tr>
<td>VII</td>
<td>There is significant difference between return of the selective investment strategy and the rotary investment strategy in Tehran stock market</td>
<td>$H_0 : \mu_1 = \mu_2$</td>
<td>$H_1 : \mu_1 \neq \mu_2$</td>
</tr>
<tr>
<td>III</td>
<td>There is no significant difference between the active and passive investment strategies' returns in Tehran stock market</td>
<td>$H_0 : \mu_1 = \mu_2$</td>
<td>$H_1 : \mu_1 \neq \mu_2$</td>
</tr>
<tr>
<td>VIII</td>
<td>There is significant difference between growth investment strategy and the selective investment strategy in Tehran stock market</td>
<td>$H_0 : \mu_1 = \mu_2$</td>
<td>$H_1 : \mu_1 \neq \mu_2$</td>
</tr>
<tr>
<td>IX</td>
<td>There is significant difference between growth investment strategy and rotary investment strategy in Tehran stock market</td>
<td>$H_0 : \mu_1 = \mu_2$</td>
<td>$H_1 : \mu_1 \neq \mu_2$</td>
</tr>
<tr>
<td>X</td>
<td>There is significant difference between value investment strategy and the selective investment strategy in Tehran stock market</td>
<td>$H_0 : \mu_1 = \mu_2$</td>
<td>$H_1 : \mu_1 \neq \mu_2$</td>
</tr>
<tr>
<td>XI</td>
<td>There is significant difference between value investment strategy and rotary investment strategy in Tehran stock market</td>
<td>$H_0 : \mu_1 = \mu_2$</td>
<td>$H_1 : \mu_1 \neq \mu_2$</td>
</tr>
<tr>
<td>III</td>
<td>There is no significant difference between performance of price movement trend and mean of market return</td>
<td>$H_0 : \mu_1 = \mu_2$</td>
<td>$H_1 : \mu_1 \neq \mu_2$</td>
</tr>
</tbody>
</table>

Strategies, and the correlation coefficients for 124 members of the sample are 0.41 and 0.32, respectively, which shows that there is a weak but positive relation between these two variables. With respect to the sig values for the years 2007, 2008 and 2009, there is no significant relation between these two variables. How to assess the correlation between strategies is presented in the Table 3.

**Subsidiary hypothesis II:** There are positive correlations between returns of growth investment strategies and those of sector rotation investment strategies.

$$H_0 : \rho = 0$$

$$H_1 : \rho \neq 0$$

Based on SPSS outputs, since the sig values for all years except for the year 2007 are less than 0.05, the null hypothesis is rejected, and on the other hand, the alternative hypothesis is accepted. Accordingly, there is a positive correlation between the returns of growth investment strategies and those of sector rotation strategies for the year 2006, and the correlation coefficient for 95 members of the sample is 0.249, which shows that there is a weak but positive relation between these two variables. With respect to the sig values for all the remaining years, there is no significant relation between these two variables.

**Subsidiary hypothesis III:** There are positive correlations between returns of growth investment strategies and those of selection investment strategies.
Table 2. Test of major hypotheses.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Sig</th>
<th>df</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
</tr>
<tr>
<td>Major 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsidiary 1</td>
<td>0.001</td>
<td>0.001</td>
<td>0.005</td>
</tr>
<tr>
<td>Subsidiary 2</td>
<td>0.001</td>
<td>0.014</td>
<td>0.019</td>
</tr>
<tr>
<td>Subsidiary 3</td>
<td>0.001</td>
<td>0.031</td>
<td>0.035</td>
</tr>
<tr>
<td>Major 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsidiary 4</td>
<td>0.160</td>
<td>0.042</td>
<td>0.049</td>
</tr>
<tr>
<td>Subsidiary 5</td>
<td>0.001</td>
<td>0.546</td>
<td>0.085</td>
</tr>
<tr>
<td>Subsidiary 6</td>
<td>0.001</td>
<td>0.146</td>
<td>0.731</td>
</tr>
<tr>
<td>Major 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsidiary 7</td>
<td>0.012</td>
<td>0.001</td>
<td>0.022</td>
</tr>
<tr>
<td>Subsidiary 8</td>
<td>0.350</td>
<td>0.195</td>
<td>0.014</td>
</tr>
<tr>
<td>Subsidiary 9</td>
<td>0.003</td>
<td>0.813</td>
<td>0.875</td>
</tr>
<tr>
<td>Subsidiary 10</td>
<td>0.001</td>
<td>0.075</td>
<td>0.816</td>
</tr>
<tr>
<td>Major 4</td>
<td>0.004</td>
<td>0.101</td>
<td>0.044</td>
</tr>
</tbody>
</table>

*Hypothesis have been accepted that confirm at least in 4 years.

Table 3. Pearson correlations growth investment strategies.

<table>
<thead>
<tr>
<th>N</th>
<th>Sig. (2-tailed)</th>
<th>Pearson correlation</th>
<th>Type of strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>124</td>
<td>0.153</td>
<td>0.141</td>
<td>0.056</td>
</tr>
<tr>
<td>95</td>
<td>0.363</td>
<td>0.147</td>
<td>0.014</td>
</tr>
<tr>
<td>75</td>
<td>0.006</td>
<td>0.257</td>
<td>0.022</td>
</tr>
</tbody>
</table>

\[
\begin{align*}
H_0 & : \rho = 0 \\
H_1 & : \rho \neq 0
\end{align*}
\]

Based on SPSS outputs, since the sig values for the years 2006, 2007 and 2009 are less than 0.05, the null hypothesis is rejected, and on the other hand, the alternative hypothesis is accepted. Accordingly, there is a positive correlation between the returns of growth investment strategies and those of selection investment strategies, and the correlation coefficients for 75 members of the sample are 0.369, 0.252 and 0.316, respectively, which shows that there is a weak but positive relation between these two variables. With respect to the sig values for all the remaining years, there is no significant relation between these two variables. Therefore, it can be said that there is a weak, insignificant relation between these two variables.

Main hypothesis II

There are positive correlations between returns of value investment strategies and those of active and passive strategies. How to assess the correlation between strategies is presented in the Table 4.

Subsidiary hypothesis IV: There are positive correlations between returns of value investment strategies and those of sector rotation strategies.

\[
\begin{align*}
H_0 & : \rho = 0 \\
H_1 & : \rho \neq 0
\end{align*}
\]

Based on SPSS outputs, since the sig values for the years 2005 and 2009 are less than 0.05, the null hypothesis is rejected, and on the other hand, the alternative hypothesis is accepted. Accordingly, there is a positive correlation between the returns of value investment strategies and those of sector rotation investment strategies, and the correlation coefficients for 142 members of the sample are 0.510 and 0.183, respectively, which shows that there is a weak and negative relation between these two variables. With respect to the sig values for all the remaining years, there is no significant relation between these two variables.
Subsidiary hypothesis V: There are positive correlations between returns of value investment strategies and those of selection investment strategies.

\[
\begin{align*}
H_0 & : \rho = 0 \\
H_1 & : \rho \neq 0
\end{align*}
\]

Based on SPSS outputs, since the sig value for only the year 2005 is less than 0.05, the null hypothesis is rejected, and on the other hand, the alternative hypothesis is accepted. Accordingly, there is a positive correlation between the returns of value investment strategies and those of selection investment strategies, and the correlation coefficient for 129 members of the sample is 0.269, which shows that there is a weak and negative relation between these two variables. With respect to the sig value which is greater than 0.05, therefore, there is no significant relation between these two variables for all the remaining years.

Main hypothesis III

There are positive correlations between returns of sector rotation investment strategies and those of selection investment strategies. How to assess the correlation between strategies is presented in the Table 5.

\[
\begin{align*}
H_0 & : \rho = 0 \\
H_1 & : \rho \neq 0
\end{align*}
\]

Based on SPSS outputs, since the sig value for only the year 2005, 2006 is less than 0.05, the null hypothesis is rejected, and on the other hand, the alternative hypothesis is accepted. Accordingly, there is a positive correlation between the returns of sector rotation investment strategies and those of selection investment strategies, and the correlation coefficient for 94 members of the sample is 0.38 and .224, which shows that there is a weak and negative relation between these two variables.

CONCLUSION AND SUGGESTIONS

Findings from the subsidiary hypothesis I

With respect to SPSS outputs concerning the correlation between returns of growth and value investment strategies, we find out that there is no correlation for the latter three years of the period under study, and the correlation coefficient is very low for the years 2005 and 2006; therefore, one can conclude that there is no significant correlation between returns of growth and value investment companies in Tehran stock market.

Findings from the subsidiary hypothesis II

With respect to SPSS outputs concerning the correlation between returns of growth and sector rotation investment strategies, we find out that there is no significant correlation between returns of growth and sector rotation investment companies in Tehran stock market.

Findings from the subsidiary hypothesis III

With respect to SPSS outputs concerning the correlation between returns of growth and selection investment strategies, one can conclude that there is a weak, insignificant positive correlation between these two variables; that is, it is likely that an increase in returns of growth investment companies increases the returns of...
selection investment companies.

Findings from the subsidiary hypothesis IV

With respect to SPSS outputs concerning the correlation between returns of growth and sector rotation investment strategies, one can conclude that there is a weak, negative relation between these two variables in Tehran stock market.

Findings from the subsidiary hypothesis V

With respect to SPSS outputs concerning the correlation between returns of growth and selection investment strategies, one can conclude that there is no significant relation between these two variables (Except for the year 2006).

Findings from the main hypothesis III

With respect to SPSS outputs concerning the correlation between returns of sector rotation investment strategies and selection investment strategies, one can conclude that there is a weak, negative relation between these two variables.

General suggestion

As the researcher has investigated, the performance and correlation between different kinds of investment strategies in Tehran stock market and found different results, therefore all natural and legal investors are advised to take correlations of different investment strategies into account in order to optimize their portfolio risk and return in Tehran stock market.

Suggestions based on the hypotheses

Here, based on the findings from the main and subsidiary hypotheses about the performance of investment strategies and also based on the findings from the hypotheses about the correlation analysis of investment strategies, some suggestions are provided on the basis of subsidiary hypotheses results.

Suggestions based on the subsidiary hypothesis I

With a view to the finding of the subsidiary hypothesis I, which showed that growth investment strategies yield higher returns than value investment strategies, and with a view to the subsidiary hypothesis II, which showed that growth investment strategies yield higher returns than the market average, and also, with a view to the subsidiary hypothesis I, which showed that no significant correlation exists between these strategies, investors in Tehran stock market are advised to profit from a combination of growth strategies adopted in different industries in order to reduce their non-systematic risk.

Suggestions based on the subsidiary hypothesis II

With a view to the finding of the subsidiary hypothesis IX, which showed that growth investment strategies yield no higher returns than sector rotation investment strategies, and with a view to the finding of the subsidiary hypothesis V, which showed that sector rotation investment strategies yield higher returns than the market average, and also with a view to the finding of the subsidiary hypothesis II, which showed that no significant correlation exists between these strategies, investors in Tehran stock market are advised not to adopt such strategies simultaneously in their portfolios in order to reduce their non-systematic risk. However, in the short run, they can change between growth investment strategies and sector rotation investment strategies in order to stabilize their portfolio combinations.

Suggestions based on the subsidiary hypothesis III

With a view to the finding of the subsidiary hypothesis VIII, which showed that growth investment strategies yield higher returns than selection investment strategies, and with a view to the finding of the subsidiary hypothesis IV, which showed that there is no significant difference between the returns of selection investment strategies and the market average returns, and also with a view to the subsidiary hypothesis III, which showed that there exists a weak, but positive correlation between these strategies, therefore investors in Tehran stock market are advised not to adopt such strategies simultaneously in their portfolios in order to reduce their non-systematic risk, and they had better adopt growth investment strategies over selection investment strategies. They should do so on the ground that first, such strategies do not outperform the market average and the growth investment strategies, and second the positive correlation between growth investment strategies and selection investment strategies does not allow investors to adopt these two strategies simultaneously.

Suggestions based on the subsidiary hypothesis IV

With a view to the finding of the subsidiary hypothesis XI, which showed that value investment strategies yield no
higher returns than sector rotation investment strategies in Tehran stock market, and with a view to the finding of the subsidiary hypothesis IV, which showed that there exists a weak and negative correlation between these strategies, investors in Tehran stock market can adopt such strategies simultaneously in their portfolios in order to reduce their non-systematic risk. However, they should pay special attention to their stock investment strategy combinations in their portfolios. In other words, they can take in more of the sector rotation investment strategies in their portfolios with respect to the insignificant correlation existing between these two strategies.

**Suggestions based on the subsidiary hypothesis V**

With a view to the finding of the subsidiary hypothesis X, which showed that value investment strategies yield no higher returns than selection investment strategies, but generally the mean of selection investment strategies is higher than that of value investment strategies, and also with a view to the finding of the subsidiary hypothesis V, which showed that no correlation exists between returns of such investment strategies, therefore investors in Tehran stock market are advised to adopt selection investment strategies to optimize their portfolio risk and return.

**Suggestions based on the main hypothesis III**

With a view to the finding of the subsidiary hypothesis VII, which showed that there is no significant difference between returns of sector rotation investment strategies and selection investment strategies in Tehran stock market, and with a view to the main hypothesis V, indicating that there is a weak and negative correlation between returns of these strategies, thus investors in Tehran stock market are advised to adopt both investment strategies in order to optimize their non-systematic risk and their portfolio returns. They should do so on the ground that if there is a decrease in returns of one investment strategy, returns of the other investment strategy will increase due to the negative correlation existing between them; in this way investors can stop further losses.

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