Options for Establishing Investment Portfolios in the Amman Stock Exchange

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ABSTRACT
All investors in the financial markets aim at achieving returns that guarantee for them minimum risks that their investments may be vulnerable to, including those that may result from fluctuation in prices of securities invested or exchange rate fluctuations as well as the risk of not being able to abstain from investments at a given time. Therefore, it is difficult for investors to determine returns of investments achieved. However, the risks in these investments can be reduced through a well thought out process of establishing investment portfolios that depend on diversification.

Construction a portfolio under a scientific and studed stardordards is acrucial to have asucsessful investmen

Problem of the Research

The problem of research is that diversification of the portfolio is a significant process for portfolio management as well as a reduction in risk. Hence, the researcher endeavors to explain the impact of investment diversification in finding the optimal investment portfolio in the financial markets.

Significance of the Research

The importance of research lies in the impact of diversity in achieving an ideal investment portfolio. This could be done through a basic structure of the assets of the portfolio, which helps investors invest in the largest securities' profits, as well as the efficiency of management in the face of the risks that the portfolio may be exposed to.

Hypotheses of the Research

The research is based on the assumption that the success of an efficient portfolio management policy relies mainly on a diverse portfolio structure in order to minimize risks to the lowest possible level.

Objective of the Research

The research seeks to disclose the difficulties that investors faced in selecting the appropriate portfolios based on the degree of acceptability of risk and the expected revenue, which means the ability to swap between a return and risk.

The Structure of Research

Descriptive and statistical analysis was followed to obtain the objective of the research. In order to test the hypothesis of the research, the research was partitioned into two sections. The first section deals with the conceptual framework of the investment portfolio, while the second focuses on statistical analysis of the efficient portfolio selection in the Amman market. This could be approached through establishing investment portfolios among industrial sectors such as industry, banks, services and selection of the best investment portfolio.

Conceptual Framework of the Investment Portfolio

The portfolio is defined as a compound instrument of investment tools which consists of two or more financial and genuine assets, and is managed by a person responsible for it, called a portfolio manager. This person may be its owner or recruited under the terms of the contract entered into between the recruited and the owner of the portfolio (Muttar, 2009: 106).

The concept of the portfolio could be understood from the nature of the investor's behavior and decision regarding the balance between returns, risk and access to the optimal investment of the available financial resources. This notion should take into account the investor is rational in his decision to choose the efficient portfolio that achieves the highest returns at a certain level of risk or achieve the least risk under a certain level of expected revenues (Bragham & Daves, 2007: 80).

However, the nature of analysis differs at a time when establishing a portfolio of a number of miscellaneous investments which collected in varying measures with the aim

to belittle investment risks without affecting the rate of a portfolio expected return. This could be attained through scientific grounds which include one of the most famous theories in the financial thinking, that's the theory of a modern portfolio. This theory pays much attention to rational financial decisions as to a balance between a revenue and risks at investments in these financial and genuine assets. During 1950s, Harry Marquitis is deemed the first who developed the theory of portfolio, then participated with competent ones in developing the theory of modern portfolio (Al-Ali, 2012: 233).

Second: Importance and Objectives of the Investment Portfolio

1. **Significance of an Investment Portfolio**

   Rise of importance of investment portfolios and attention paid to it came from the increase of investment opportunities and availability of funds, surpluses with individuals, commercial banks and companies. This has led to finding a management enjoying a high proficiency for achieving this objective. The nature of business of some companies and financial institutions including commercial banks has made it in a dire need to invest its funds for the purpose of meeting its different obligations (Al-Shabeeb, 2009:287).

   Therefore, the immense significance of investment portfolios have been affirmed in investment institutions for the following reasons (Al-Mumini, 2013:19):

   a. Capital flow into all investment and industrial institutions, where these large capital flows calls for investment in shares and bonds.

   b. Investment institutions and expert houses expand their services and consultation supply for investors, namely investment in shares, bonds, and recently there's an increase in real estate.

   c. Investors pay attention to instant profit, which requires finding an adequate scientific method to attain this goal.

   d. Attentions has been dragged to the principle of an alternative opportunity. It means making optimal use of surplus capital for achieving a profit, nevertheless investment is in a different activity away from the activity of a fund-generating company.

   e. Some institutions and companies of a special nature that deal with funds have expanded their activities. This has brought up a big accumulation of funds with it (such as commercial banks, insurance companies and boxes of insurance, pension and saving). This phenomenon causes an accumulation of financial surpluses with it. As there are some obligations, this requires investing these surpluses, so it could meet its different financial obligations in an appropriate size and time.

2. **Objectives of Investment Portfolio**

   Objectives of an investment portfolio shed light on achieving a bigger return at a specific level of risk through mixing up accessible investment tools and a necessary availability of cash. We could here make a reference to the most significant objectives (Moses et al., 2012: 165):

a. Maintain the genuine capital of the portfolio. A portfolio manager shall not endanger the genuine capital of the portfolio, as well as he should pay much attention to the subject of preservation of the genuine value of the portfolio's Capital, which is considered one of the main objectives achieved by the investment portfolio.
b. Obtain the best return with a little possible risk.
c. Maintain a level of flow though investment using tools which are capable of being transferred into cash with no losses.
d. Ensure obtaining continuous returns represented by the current return.

Third: Swapping between the Return & Risks

The importance of a traditional financial analysis is based on financial decisions of expected returns taking no consideration to risks arising from it. At the best times, a return and risks are calculated separately, then a comparison between them is conducted. This kind of analysis is called a defect in the ceiling, where the new perspective in taking financial decisions is operated within the scope of Portfolio Theory. This theory is characterized by its quantitative measure of the relationship between a return and risks (Al-A'miri, 2013: 256).

The investment portfolio pays attention the return, because each decision it issues is reflected in a form of a profit or loss. This means the decisions could bring up a positive or negative yield. The return attained as a result of an investment process in a portfolio is accompanied by a degree of risk, varied in its effect pursuant to type of assets invested in. Thus, the relationship between a return and risks is direct, the higher the return, the greater the risk (Al-Shabeeb, 2010: 61).

1. **The Concept of Return**

It is the amount that the investor aspires to obtain in the future for the investment of his money (Moussa, 2015: 143). The amount of return includes two types: the expected returns that investors receive as a result of relying on information about the nature of the asset they wish to invest in, and the unexpected or risk-adjusted return, which is in contrast to the expected return in terms of not based on accurate information on the advantage and impact of the asset invested. These two returns can be expressed in the following equation:

$$R - E(R) = U$$

Whereas:

R: actual returns

E(R): expected return

U: Unexpected return

The above equation shows that unexpected returns are positive or negative, but over time, these news and surprises may disappear, and the value of (U) becomes zero. This means that actual returns are equal to expected returns (Jordan & Miller, 2009: 381).

2. **The Concept of Risks**

It is a probability that the investor will not be able to estimate the relative changes in returns expected from the investment (Walker, 2006: 145). In everyday life, risk is often viewed negatively, but we know well that risks lead to economic gains and others have negative effects. For example, buying a lottery can lead to a loss equal to its cost, but is likely to earn a large financial reward. Conversely, the risk of death or injury due to blindly shooting is a purely negative consequence of the impact of that danger (Fabozzi & Drake, 2009: 555).

In finance, the returns on investment in shares are unfixed and bear the profit or loss and change from year to year. It's found that this type of investment has a higher risk than investing in bonds. Therefore, risks can be considered as uncertainty and fluctuation in terms of rise and fall (AlMumini, 2009: 79).

The diversity of sources of risk to securities requires a transparent pattern for calculating the impact of these risks through identifying their central value and appropriate hedging, or finding a suitable basis for determining the risk bonus (Dagher, 2005: 190). Investment in securities in the capital markets is subject to two types of risks: systemic and unsystemic risks, and the sum of which is equal to the total risks as follows:

First: Systematic Risks

These risks, emerged from common factors, affect the market as a whole and disturb all companies or sectors without exception, to varying degrees without management having a role to avoid by diversification of the investment portfolio. Such risks include trading cycles represented by recession or viability and the risk of fluctuations of interest and exchange rates and the risks of political and other circumstances (Marty, 2013: 83).

Moreover, the investor bears the risk of the investment of shares in exchange for receiving a return called a risk premium, and its value should be high in order to motivate investors to purchase (Bragham & Daves, 2007: 49). Investors hope to find an appropriate method to measure systemic risks by means of beta (β) factor (which measures the volume of market risks to which returns are exposed). Systemic risk is measured by the following equation (Ross, et al., 2013: 427):

Systematic Risk $= \beta^2 \sigma^2 Rm$

Whereas:

Systematic risk

β^2 : Beta square

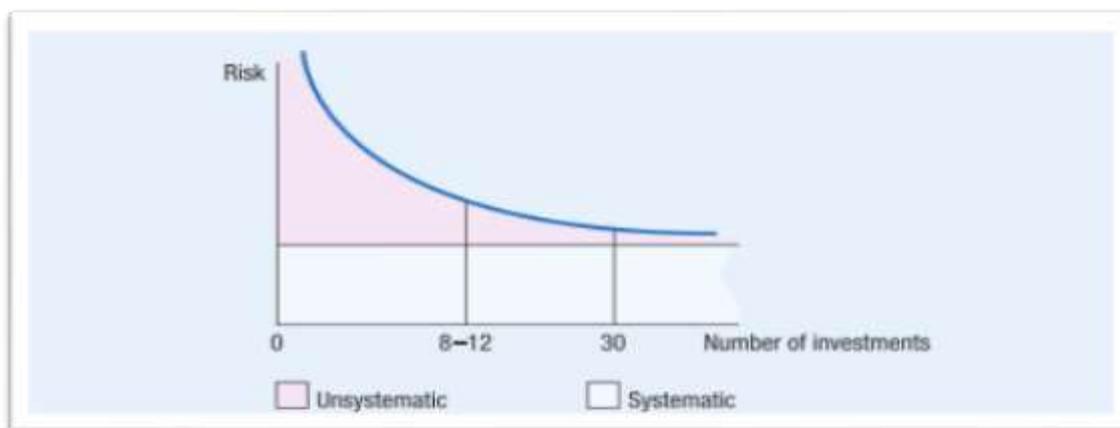$\sigma^2 Rm$.: variance of market return rate

Second: Unsystematic risks

Unsystematic risks are ones resulting from factors related to a particular company or sector, and are independent from factors affecting the economic activity as a whole. These factors include strikes in the work of a particular company or sector, administrative errors, new inventions, advertising campaigns, changes in consumer

tastes and the emergence of new Acts and other factors that affect the activity of some companies but not others. And then the investor can control these risks through the diversification of investment portfolio (Muttar & Tim, 2005: 42). The following figure depicts the effect of increasing portfolio investments to reduce unsystematic risk, while the impact of systemic risk remains unchanged because it is a market-specific phenomenon, and cannot be escaped.

The relationship between the volume of investments and systemic risks

Watson, Denzi & Head, Antony, Corporate Finance Principles and Practice, 5[h] ed, Prentice Hall, 2010.

The above figure discloses that increasing the volume of investment protect many investors from unsystematic risks through diversity of the investment portfolio. In contrast, the volume of systemic risk cannot be eliminated through the diversity of the investment portfolio. Thus, it is called non-diversified risks (Watson & Head, 2010: 228).

Standard deviation is a proper statistical indicator to measure the volatility of the rate of return around its mean, which shows the risk of a single sheet. According to this indicator (σ), the volatility of returns significantly above the average gives the investor an indication that the investment securities bear a high risk rate. While the low volatility of the volume of returns from the mean reflects that the security is of low risk. This indicator is expressed in the following equation (Dagher, 2005: 196):

$$\sigma = \sqrt{\frac{\sum (Ri - \bar{R}i)^2}{n}}$$

σ : Standard Deviation

$\bar{R}i$: Rate of return on instrument
R i: Mean of rate of return
N: Views

Fourth: Impact of Diversity on Risks Reduction

Among the important decisions in establishing a portfolio is the mix of assets and the choice of a variety of financial instruments that constitute the portfolio or the distribution of the capital allocated to investment on a number of proper instruments. This is called diversity. But the diversity method differs if the investor is after a simple or naive diversity because the investor type 1 distributes its investment funds equally between a large number of securities traded in the market and from different economic sectors (sectoral diversity), or using different time periods (timing diversity), or different global markets (global diversity).

This assumes that rise of the portfolio volume and diversity of its sources will be reflected in a form of fall in the degree of unsystematic risks. While the competent diversity or Markwitz Diversity states that the crucial factor in decreasing the risk of portfolio principally depends on studying interrelations among returns of financial papers constituting portfolios, not depending on increasing its volume blindly (Ross et al., 2002: 834).

Fifth: Analysis and Selection of Diversification Strategy in the Investment Portfolio

In this study, the two researchers endeavor to determine the strategy of diversification in some companies covered by this study and for the period (2011-2016) and the formation of an investment portfolio. This issue requires to build up appropriate rules and procedures regarding this strategy in terms of measuring the return and risk of these companies, and then move to the calculation of return and risk of the portfolio which is consisted of the two sectors and their correlations, since the correlation coefficient is an important statistical measure in detecting the movement of the returns movement. The lower the correlation between the return on investment, the lower is the risk of the portfolio. The greater the negative value of the correlation and the closer to the positive one (-1), the greater the diversification of the portfolio of these sectors and the reduction of risks to a certain level. This is what should be attained in our analysis of companies listed on the Amman Stock Exchange. The investor is to reduce risks to a certain level in view of obtaining a return proper to fit the investor's tendency to invest in the portfolio.

1. **Analysis of Return and Risks of Selected Companies**

   Before embarking on the formation of an investment portfolio, there should be preliminary data specific to each sector in terms of calculation of return and risk for companies selected in this study through the following:

a. **Sector of Banks**

Results of the analysis of the data in table (1) show that the Islamic Bank achieved a high return level of (0.047), and outperformed the Housing Bank and the Union Bank.

The Jordan Bank as well won a return, but at a low level, while Arab Bank and Cairo Bank suffered a loss of return.

However, the published reports disclose that Arab Bank has achieved high superiority in the Amman Stock Exchange in terms of achieving the highest market value during the period of the study and the continuation of trading in the market significantly. The risk level measured by the standard deviation represents the amount of dispersion of values from the arithmetic mean (0.045), as shown in the following table:

B. The Services Sector Y

Table (1)

Measuring the return and risk of the banking sector

Banking sector	Return 2011	Return 2012	Return 2013	Return 2014	Return 2015	Return 2016	Average return
Arab Bank	-0.213	-0.076	0.08	-0.093	-0.091	-0.043	-0.073
Housing Bank	-0.012	0.031	0.054	0.045	0.038	-0.015	0.023
Jordan Bank	-0.307	0.121	0.086	0.06	-0.018	0.107	0.008
Jordan Muslim Bank	-0.083	0.021	0.217	0.076	-0.035	0.087	0.047
Cairo Amman Bank	-0.128	-0.007	0.01	0.032	-0.111	-0.274	-0.079
Union Bank	-0.283	-0.048	0.204	0.09	-0.155	0.322	0.021
Jordanian Kuwaiti	-0.162	-0.162	0.283	0.102	-0.044	-0.036	-0.003
Average Return							-0.007
Standard deviation							0.045

The results were calculated by the researchers based on data from the banking sector

The results indicate that the services is marked by gaining high revenues which encourages the investors to invest a portion of their money in this sector; Tihama Company for investments, Union for Financial Investments and Tameer Jordan Holding made high rates that surpass

The revenue rates made by Aggregates for Nutrition Services, Union for Land Development and Darcom Investment as it is shown in (Table 2), the average yield of those Companies was (0,288) at a high risk level (0,29) , which in turn proves the correlation between the expected revenue and the risks. Consequently, whenever the revenue rate increases , the expected risks increase as well .As a result , the investor who likes risks is encouraged to enter into ventures so as to gain high revenues no matter how severe the risks that he may face in his various investments are

Table (2)

Measuring the return and risk of the Services sector

Services sector	Return 2011	Return 2012	Return 2013	Return 2014	Return 2015	Return 2016	Average return
gregates for Nutrition services	0.07	0.434	1.055	-0.428	-0.687	0.075	0.086
Union FOR Land Development	0.19	0.165	0.416	-0.533	0.246	0.052	0.089
Darcom Investment	-0.134	-0.288	-0.406	3.105	-0.503	-0.842	0.154
Union for Financial Investments	-0.485	0.913	0.651	-1	0	2.593	0.534
Tihama Investments	-0.375	-0.421	1.944	0.603	-0.47	3.133	0.739
Tameer Jordan Holding	0.051	-0.595	-0.294	0.083	4.307	-0.333	0.536
Jordan Telecom	0.027	-0.041	-0.226	-0.143	0	-0.341	-0.12
Average Return							0.288
Standard deviation							0.29

The results were calculated by the researchers based on data from the services sector

C. Industry Sector Z

From Table (3) , it is clear to find the analysis of the return and the risks of the industry sector and the results reflected by the results in its capacity to achieve appropriate revenues that go with the desire of the investors in different degrees. Jordanian Ceramics Co. has made, during the research period, a high return rate of (0,376) , while Iqbal Industry for Investment ,Union Cigarettes and Ram Eala aldiyn come in the second place respectively gaining rates of (0,328), (0,275) and (0,129). The other Companies made losses in the return, noting that the level of risk that the sector faced was (0,22) at a return rate of (0,103). The following table indicates the amount of expected return and the level of the expected risk of the Industry Sector.

Table 3)

Measuring the return and risk of the Indutry sector

Industry sector	Return 2011	Return 2012	Return 2013	Return 2014	Return 2015	Return 2016	Average return
Phosphate Mines	-0.247	0.02	-0.45	-0.088	-0.161	-0.608	-0.255
Arabic potash	0.013	0.054	-0.396	-0.304	0.076	-0.086	-0.107
Iqbal Industry	0.318	0.41	0.481	-0.17	0.497	0.433	0.328
Iron Jordan	0.004	-0.39	-0.007	-0.526	-0.241	-0.255	-0.023
Union Cigarettes	-0.269	2.472	0.53	-0.256	-0.472	-0.35	0.275

Ram eala aldiyn	0.657	1.189	-0.251	-0.684	-0.133	0	0.129
Jordanian ceramics	0.068	1.803	0.218	0.103	0.059	0	0.376
Average Return							0.103
Standard deviation							0.22

The results were calculated by the researchers based on data from the industry sector

2. Selecting the Efficient Diversification strategy

Based on the goal of diversification, which is, for the portfolio, to give a return bigger than that of the other portfolios which bear a similar level of risk or the level of risks the portfolio bears is less than the level of risks in the portfolios that give out the same return or less; according to these conditions , it is possible to create a portfolio that consists of two equal sectors and for each sector there will be seven companies , through which to the expected return is counted as well as to count the risks of the portfolio and the returns gained , as it is shown in the following tables:

A- The Diversification Strategy between the Banks Sector and the Services Sector (XY)

Depending on the return analysis and the risks , it is possible to form a portfolio consisting of the Banks Sector and the Services Sector and

to swap between them so as to make use of the variety in lowering risks and to gain reasonable return through the connection between them ;hence, it is obvious that , in Table (4) , the portfolio displays the fact that the return of both sectors move into two different directions : the return of one of these sectors move upward, in one period , while the return of the investment of the other sector moves in the opposite direction, i.e., downwards. The correlation coefficient is calculated via the division of the common contrast of the values of both sectors , which is given the symbol (COV) or Covariance, over the multiplication of the standard deviations of each sector X,Y , and as indicated in the following table:

Table (4)

The investment portfolio consists of the banking sector and the service sector

Banking sector	Average return x	$(X - \bar{X})$	Services sector	Average return y	$(Y - \bar{Y})$	Contrast
Arab Bank	-0.073	-0.065	**gregates for Nutrition services**	0.086	-0.44	0.028
Housing Bank	0.023	0.031	**Union FOR Land Development**	0.089	-0.437	-0.013

Jordan Bank	0.008	0.016	**Darcom Investment**	0.154	-0.371	-0.006
Jordan Muslim Bank	0.047	0.055	**Union for Financial Investments**	0.534	0.007	0.0004
Cairo Amman Bank	-0.079	-0.071	**Tihama Investments**	0.739	0.212	-0.015
Union Bank	0.021	0.029	**Tameer Jordan Holding**	0.536	0.009	0.0002
Jordanian Kuwaiti	-0.003	0.004	**Jordan Telecom**	-0.12	-0.647	-0.003
Average Return	-0.007		0.288			
Standard deviation	0.045		0.29			
Relative Weight	0.65		0.35			
Contrast	-0.00878					
Coefficient of correlation	-0.6					
Portfolio return	0.09					
Portfolio risk	0.087					

The results are calculated by the researchers.

B. Diversification Strategy between the Services Sector and the Industry Sector (YZ)

The results of the analysis has shown a positive correlation in the portfolio **YZ** , which is made of the Services Sector and the Industry Sector and it reached (0,4) which indicates that the movement of trend returns of both sectors go into the same direction , which is reflected in the fact that the diversification in this portfolio is not useful since that is clarified through the rise in risks in both sectors ,where the risks that met the Services Sector was (0,29). The risk of the Industry Sector was (0,22) , which means that both sectors face high risks the Portfolio Director could not or the investor avoid or reduce the severity of the probable risks by utilizing the Diversification Strategy in this portfolio and as is indicated in the following table:

Table (5)

The investment portfolio consists of the services sector and the industrial sector

Services sector	Average return Y	$(Y - \bar{Y})$	Industry sector	Average return Z	$(Z - \bar{Z})$	Contrast
Aggregates for Nutrition services	0.086	-0.44	**Phosphate Mines**	-0.255	-0.328	0.144703
Union FOR Land Development	0.089	-0.437	**Arabic potash**	-0.107	-0.18	0.078689
Darcom Investment	0.154	-0.371	**Iqbal Industry**	0.328	0.255	-0.09513
Union for Financial Investments	0.534	0.007	**Iron Jordan**	-0.237	-0.31	-0.00246

Tihama Investments	0.739	0.212	**Union Cigarettes**	0.275	0.202	0.043134
Tameer Jordan Holding	0.536	0.009	**Ram eala aldiyn**	0.129	0.056	0.000549
Jordan Telecom	-0.12	-0.647	**Jordanian ceramics**	0.376	0.303	-0.19651
Average Return	0.288	0.103				
Standard deviation	0.29	0.22				
Relative Weight	0.4	0.6				
Contrast	0.02703					
Coefficient of correlation yz	0.4					
Portfolio return	0.17					
Portfolio risk	0.20					

The results are calculated by the researchers

C- The Diversification Strategy between the Banks Sector and the Industry Sector (XZ)

The signal of the negative coefficient of correlation among the returns is regarded as one of the factors that influence the portfolio level of risks because it abundantly participates in reducing the risks; this is what is reflected by the results of the analysis referred to in Table (6) about the existence of a negative relationship between the Bank Sector's return with the Industry sector's return ,which equals (-0,9). This reference tells us that the direction of the return movements goes in two opposite directions , which, in turn, helps in reducing the portfolio's risks as the increase in the risks of one of the sectors will face low risk level in the other sector. The risk level this portfolio faces equals(0,067), which is less than the risk level that faced portfolio **YZ** , which is (0,087) and portfolio **XY** which is (0,20), which indicates that the diversification strategy in portfolio **XZ** is the best among the other diversification strategies since it leads to the diversification target of reducing risks and gaining appropriate return in a way that suits the portfolio director.

Conclusions

1. The effectiveness of the diversity lies in the fact that it ensures an excellent competitive situation compared to the their competitors through keeping their competitive position and its market share in addition to the importance of diversification in getting high return within a certain level of risks.

2. The diversification strategy appeared in the portfolio created by Harry Markowitz concerning on the way of concentrating on the correlation coefficient of the returns being achieved ,which reveals the movement of the direction of returns; this what the analysis results indicated concerning the existence of positive correlative coefficient in the **YZ** portfolio (consisting of the Services Sector and the industry Sector) and negative correlative coefficients in both portfolios **XY** in amount of (- 0,6) and **XZ** which reached (-0,9), which is the last one and considered the best diversification strategy in the portfolio because the nearer the signal of the correlative coefficient to the negative full number one is, the possible it is reduce the portfolio risks.

3. The analysis results of the return and the risks of the financial papers before forming consultative portfolio of the sectors showed that the risks level was high compared to the investment portfolio risks, where the risks in the Banks Sector, the Services Sector and the Industry Sector amounted (0,40), (0,29) and (0,22) respectively. It is obvious that the investment portfolio risks level is less than the financial paper risk for the individual sectors.

4. A lot of financial literature refers to the fact that gaining a return in investing in the financial and real assets is accompanied by some degree of risks based on the correlative relationship between the return and the risk- whenever the return increases , the risks of those assets increase; therefore, the financial specialists went to invent new investing tools that can reduce the risks against gaining appropriate return : this tool is represented by the investigation portfolio.

Suggestions and Recommendations

1. it is necessary , for the specialized parties, to provide complete data base for the registered companies in the market that contains all the data needed by the investors and the researchers ,which facilitates taking the suitable investing decision.

2. Training the managerial staff being interested in Amman Stock Exchange by means of inserting consultative companies and financial mediation companies to discuss the importance of the investment portfolio administration and the methods of developing the financial market to match the progress being achieved in the global markets.

3. Instructing the investors in utilizing the Diversification Strategy in the investment portfolios and teaching them the importance of the role of synthesizing the financial and real assets for building the model portfolio as to meet the investors goals in reducing risks.

4. The importance of making use of the real and the expected accounting information due to its importance in explaining the changes in the shares values ,in addition to helping the investors to be aware of selecting the investing portfolios ,where the coefficient of variation is to the least.

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