The Role Of Distribution In Cutting Off The Investment Portfolio Risks Applied Study – Sample Of Iraqi Banks Listed In Iraq Stock Market

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Abstract

This study aims to investigate the role of diversification in cutting off the investment portfolio risks. The diversification considers as an important matter for the investors being it contributes in constructing the investment portfolio which assists in cutting off all aspects of risks related the company and the employees, so this study sheds light on the role of diversification have been playing in cutting off the investment portfolio risks. There are (77) corporations listed in Iraq stock market, nine of them have been adopted by this study. This study aims to show the role of diversification in cutting out the investment portfolio risks, where the diversification considers as the most important matter. Also this study deals with how to construct the investment portfolio through activate the diversification to cutting off the portfolio risks by concentrating on the problem represented disability of banks to promising the adherences and financial, monetary, and employment balance losing depending on the following hypothesis: diversification can contribute in cutting off the investment portfolio risks. Furthermore, this study bases on numbers of financials and arithmetic samples to analyze the financial data. Set of conclusions have been shown by this study, the most prominent one is the diversification activity contributes obviously in constructing the investment portfolio to cutting off the banking risks, also one of the most important recommendations have been emphasized to depend on the principle of diversification to cutting off the investment portfolio risks in stocks.

Keywords
Diversification, Cutting Off the Risks, Cutting Off Rate, Stock Return, and the Investment Portfolio.

Introduction

Several studies have taken takes in regard the matte of investment in the stocks about how to construct the investment portfolio with less risk. One of the most important fundamentals to promote the national economic and enhancing its constancy is the individual's knowing and realizing the importance of diversification and preserving it. Thus the aim of diversification is how to utilize the available sources for growing the annual return with less risks. In addition the diversification counts as one of the efficient methods to provide the recent nascent corporations. However, the investment counts as one of the investment tools that reinforces the nation exports and returns include assets, lands, precious assets such as gold and valuable metals, etc… hence the theme of investment portfolio comes into view to be as one of the important tools for running the money in financial markets. Consequently, this study focuses on the role of diversification to cutting off the investment portfolio risks. The sample includes set of Iraqi banks listed in Iraq stock exchange. This study depends on available data for the period (2012-2018). The banking section has witnessed several radical transformations and reforms for getting ride off the previous discompose circumstances. Thus the problem of study embodies in (deficiency of banks to promise the adherences and the employment, monetary, and financial balance loss). Framework of the problem can be shown in the following questions: can the diversification contribute in the investment portfolio constructing in banks to cutting off the risks minimally? What is the level of diversification which may be followed by the investors during the period of investment in banks?. However, this study aims to recognize the concept of diversification efficiency, how to calculate it, measuring diversification ability in investment portfolio constructing enable to cutting off the companies risks minimally, study sample companies, offering the modern scientific techniques for investment portfolio constructing, as well as getting an accurate results through which cutting off the risks are possible depending on the following hypothesis (diversification can contribute in cutting off the investment portfolio risks).

Literature Review

Several studies have dealt with the matter of incentive generally, such as Abd-Alhameed (2010) states the role of Beta of corporations in constructing the investment portfolio. The sample is made up of set of transacted corporations in Iraq stock exchange for the period (2004-2008), CAMP sample has been used. The study has shown that Beta coefficient plays an important role in the domain of investment through investment portfolio constructing. Another study by Al-Qady (2016) illustrates that the investment portfolio running efficiency
on the banks’ profitability, where the study comprises set of Jordan banks for the period (2014-2021) where index of Sharp is dependent by these banks for the risks, portfolio return, and the risk-free return. This study shows effect of the study index for the return on the investment and the return on the equity. Further study by Gorter (2013) clarifies that investment risks measuring for pension funds and the insurance companies as sample of Dutch companies for the period (1995-2009) which used the return on the equity and some arithmetic methods. The study reveals that insurance companies stocks endures investment risks higher than the other insurance companies endure. Shahid (2007) reports how to measure and evaluate the included investment portfolio performance in Malaysia stock exchange for the period (2004-2007). This study consists of 45 of portfolios. The study applies three indexes (sharpe, Jensen, and Treyner) to recognize which one of these indexes are better to evaluate the investment portfolio performance. This study concludes that the investment portfolio performance differs according to the differences of the used index, and there's more than one index to evaluate the investment portfolio.

Basic Definitions

First: Concept of Diversification

Diversification in the domain of the financial management counts as one of the matters that takes wide concern through the study and analysis, where the diversification forms the concept of the portfolio task. According to this concept, the investor can get rid of high risks levels for the assets or can cutting off minimally. Thus the diversification will be simple for the investor when he invests equals amounts of money at different securities. However the efficient diversification represents the best swap between the return and risk (Al-Amery, 2019). According to (Bodie, et. al, 2008), (Penman, 2007) the diversification is a variety of securities which aims to cutting off the risk. Also, the diversification can be defined as the distribution in set of stocks, however the investment focuses on more than one stock for cutting off the risk the investor encounters.

Types of Diversification

1. Simple Diversification: it is the random diversification depends on the concept of increasing the securities the portfolio contains. However the simple diversification depends on the investment in set of sections regardless the features of investments such as an expected returns and industrial sections since selecting these investments is done randomly, so it is called the random diversification, where increasing the portfolio size reflects on its unsystematic risk degree, therefore the diversification of investments in set of sections will make the portfolio in balanced state (Roose, et al, 2002).
2. **Efficient Diversification:** it depends on the relevance between the securities returns, therefore the relevance between the increased securities return within the portfolio will determine the important factor that controls the risks of portfolio being the weak performance of some securities can be substituted by (offset) better performance for other securities (Al-Numan, 2008).

**Second: Concept of Investment Portfolio**

Portfolio refers to a set of financial and material assets the investor possesses such as stocks and debentures (Jordan & Jr, 2008). The prevalence thought indicates that cutting off the risk degree determines through preserving on larger number of securities regardless the quality of securities. (Jorden et al, 2015) & (Cecchettis, Schoenholtz, 2015) define the portfolio as a variety of financial assets and non-financial and as variety of securities. (Van Horne & Wachowicz, 2005) clarify the investment portfolio is a diverse set of properties, where it is seldom the investor exploits all his money in one type of assets. (Sami, 2018) states that the portfolio is a diversification set of securities either contains or not merits every asset fits assets from the return and the future risk. Also, it refers to activated results of the securities represented by stocks, debentures and retained earnings.

**Methodology and Procedures**

**First: Methodology**

The arithmetic and financial analysis method has been used to recognize the diversification contribution extent in cutting off the investment portfolio risk to achieve the accurate results in process of analyzing the obtained data from the Iraq stock market to reach minimal level of risks.

**Second: Located Procedures**

1. **Community and Research Sample**

Research community represents in set of banks worked in Iraq stock market, where the number of banks worked in Iraq stock are (77) of companies, (9) of them have been taken with percentage (12%) as shown in table (1).

<table>
<thead>
<tr>
<th>No.</th>
<th>Name Of Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Iraq Commercial Bank</td>
</tr>
</tbody>
</table>
2. Methods of Collecting Data

1. The academic method: It represents through using set of books, theses, and dissertation as well as using internet.
2. The applied method: It represents in using set of laws, arithmetic and financial programs for supporting the applied aspect of study.
3. The used arithmetic and financial instruments: Set of arithmetic and financial instruments applied for the investment portfolio constructing to cutting off the investment risks are:

A. CAPM (Capital Assets Pricing Model)

This model has been used in the required return rate account (Brigham & Ehrhardt, 2011), it accounts according to the following equation:

$$\text{ER} = \text{RF} + \beta (\text{RM} - \text{RF})$$

Where is
\begin{align*}
\text{ER} & = \text{expected return on equity} \\
\text{RF} & = \text{risk-free return} \\
\text{RM} & = \text{market risk premium} \\
\beta & = \text{systemic risk scale}
\end{align*}

B. Cutting-off

This model has been used in selecting the optimizing investment portfolio (Fischer & Jordan, 2013). It accounts according to the following equation:
\[
C_i = \frac{\sigma_m^2 \sum_{j=1}^{l} \frac{(R_j - R_f)\beta_j}{\sigma_{e_j}^2}}{1 + \sigma_m^2 \sum_{j=1}^{l} \left[ \frac{\beta_j^2}{\sigma_{e_j}^2} \right]}
\]

Where is:
\( C = \) cutting-off
\( R_j = \) market portfolio
\( R_f = \) free-risk return
\( \beta_j = \) company beta
market variation = \( \sigma_m^2 \)

C. Beta Coefficient

\( \beta = \) systematic risks coefficient, it extracted according to the following equation.

\[
\beta = \frac{\text{Cov}(R_i, R_m)}{\text{Var}(R_m)}
\]

Where is:
\( \text{Var} (R_m) = \) market variation
\( \text{Cov} (R_j, R_m) = \) common covariance (market, Company)

D. stock Return: It accounts according to the following equation
\( R = p_1 - p_0 + \frac{1}{p_0} \)
\( p_0 = \) initial stock price
\( p_1 = \) last stock price

Results and Discussion

First: Investigation and Analysis the Common Stocks

1. Test the Autocorrelation between the Returns Stocks

An appropriate arithmetical methods have been applied to analyze the data through statistical package for the social science (SPSS.V20) for testing autocorrelation coefficient to calculate the value (D-W) of common stocks returns rates series, as shown in table (2).

Table 2 Durbin Watson value for time series values for banks stocks-study sample

<table>
<thead>
<tr>
<th>D. W</th>
<th>Sign of company</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.249</td>
</tr>
</tbody>
</table>

http://www.webology.org
Table (2) shows values range between (0.715) of Babil bank stock to (1.565) Of Baghdad bank stock, all of them are closest to the number (2) than the two numbers (0) or (4). And this indicates that there's no significant autocorrelation problem in time series value of the sample and there's no necessity to problem-solving arithmetically.

2. Analyzing the Banks Section Sample Returns

Stocks returns have been analyzed in the banks section through the determined period for the banks section, as shown in table (3).

Table 3 Shows the rate of return realized for the banking section for the period extended from (2018-2012)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.071</td>
<td>0.255</td>
<td>0.175</td>
<td>0.008</td>
<td>0.012</td>
<td>0.012</td>
<td>0.017</td>
<td>0.021</td>
</tr>
<tr>
<td>2</td>
<td>0.123</td>
<td>0.570</td>
<td>0.244</td>
<td>0.163</td>
<td>0.015</td>
<td>-0.013</td>
<td>0.003</td>
<td>0.006</td>
</tr>
<tr>
<td>3</td>
<td>0.059</td>
<td>0.335</td>
<td>0.291</td>
<td>0.001</td>
<td>0.005</td>
<td>-0.003</td>
<td>0.001</td>
<td>0.017</td>
</tr>
<tr>
<td>4</td>
<td>0.157</td>
<td>0.838</td>
<td>0.341</td>
<td>0.010</td>
<td>0.010</td>
<td>0.006</td>
<td>0.007</td>
<td>0.012</td>
</tr>
<tr>
<td>5</td>
<td>0.138</td>
<td>0.542</td>
<td>0.086</td>
<td>0.042</td>
<td>0.086</td>
<td>0.078</td>
<td>0.090</td>
<td>0.043</td>
</tr>
<tr>
<td>6</td>
<td>0.112</td>
<td>0.519</td>
<td>0.266</td>
<td>0.107</td>
<td>0.266</td>
<td>0.519</td>
<td>0.035</td>
<td>0.011</td>
</tr>
<tr>
<td>7</td>
<td>0.112</td>
<td>0.341</td>
<td>0.512</td>
<td>0.005</td>
<td>0.512</td>
<td>0.341</td>
<td>0.011</td>
<td>0.012</td>
</tr>
<tr>
<td>8</td>
<td>0.111</td>
<td>0.472</td>
<td>0.229</td>
<td>0.024</td>
<td>0.229</td>
<td>0.472</td>
<td>0.035</td>
<td>0.111</td>
</tr>
</tbody>
</table>

Table (3) shows that the return means of the Investment Bank in the last bar of the table achieved high return, which is (0.157) in comparison with the section return average which is (0.111), then Bank of Babil which is the return mean stocks (0.138), then the Gulf Commercial bank (0.125), then the Islamic Bank (0.123), where the three banks: Bank of
Baghdad, Iraqi Commercial Bank, Middle East Bank achieve the return rate lower respectively ((0.102)(0.071)(0.059) in comparison with the section return average.

3. Results of Analyzing the Expected Return and the Risk for the Banks Section Stocks

The expected return analyzing results and the risk for the banks section stocks for the market portfolio, as shown in table (4).

Table 4 The risk and return averages for the common stocks of the banks section

<table>
<thead>
<tr>
<th>Sign of company</th>
<th>Expected return</th>
<th>Total risk</th>
<th>Differenent coefficient</th>
<th>R2</th>
<th>Beta coefficient</th>
<th>Systematic risk</th>
<th>Unsystematic risk</th>
<th>fixed limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.1396</td>
<td>0.0345</td>
<td>1.331</td>
<td>0.723</td>
<td>0.708</td>
<td>0.0127</td>
<td>0.0217</td>
<td>0.043</td>
</tr>
<tr>
<td>2</td>
<td>0.066</td>
<td>0.0234</td>
<td>2.319</td>
<td>0.19</td>
<td>0.645</td>
<td>0.0105</td>
<td>0.0128</td>
<td>-0.022</td>
</tr>
<tr>
<td>3</td>
<td>0.1338</td>
<td>0.0892</td>
<td>2.231</td>
<td>0.525</td>
<td>1.215</td>
<td>0.0374</td>
<td>0.0517</td>
<td>-0.32</td>
</tr>
<tr>
<td>4</td>
<td>0.0924</td>
<td>0.0123</td>
<td>1.2</td>
<td>0.165</td>
<td>0.443</td>
<td>0.0049</td>
<td>0.0073</td>
<td>-0.32</td>
</tr>
<tr>
<td>5</td>
<td>0.1696</td>
<td>0.1057</td>
<td>1.917</td>
<td>0.669</td>
<td>1.455</td>
<td>0.0537</td>
<td>0.0519</td>
<td>-0.29</td>
</tr>
<tr>
<td>6</td>
<td>0.1902</td>
<td>0.0891</td>
<td>1.568</td>
<td>0.694</td>
<td>1.189</td>
<td>0.0359</td>
<td>0.0531</td>
<td>0.028</td>
</tr>
<tr>
<td>7</td>
<td>0.1777</td>
<td>0.0679</td>
<td>1.466</td>
<td>0.437</td>
<td>0.936</td>
<td>0.0222</td>
<td>0.0456</td>
<td>0.05</td>
</tr>
<tr>
<td>8</td>
<td>0.1423</td>
<td>0.0578</td>
<td>1.688</td>
<td>0.453</td>
<td>0.86</td>
<td>0.0187</td>
<td>0.039</td>
<td>0.025</td>
</tr>
<tr>
<td>9</td>
<td>0.1729</td>
<td>0.0691</td>
<td>1.52</td>
<td>0.641</td>
<td>1.113</td>
<td>0.0314</td>
<td>0.037</td>
<td>0.021</td>
</tr>
<tr>
<td>average</td>
<td>0.1427</td>
<td>0.061</td>
<td>1.6935</td>
<td>0.499</td>
<td>0.9515</td>
<td>0.0253</td>
<td>0.0356</td>
<td>0.012</td>
</tr>
</tbody>
</table>

Table (4) shows that the annual return average reaches high level in bank of Babil which is (0.1902), then Gulf Commercial Bank is (0.1777), whereas the lowest level is in Bank of Baghdad (0.066) with lower percentage is (7.6%) in comparison with the section return
average rate, while the fixed limit reaches the highest value in the Gulf Commercial Bank which is (0.05) when the market portfolio return rate is (0), while the lowest value of the fixed limit is Bank of Baghdad is (-0.22). The study reveals that most of the banks are labile in comparison with the market portfolio which is the Investment Bank where Beta reaches (1.455), then the Islamic Bank is (1.215), and this indicates labile of the portfolio returns.

The impact of portfolio size increasing in cutting off its unsystematic risk.

To recognize the impact of diversification in the investment portfolio risk cutting off as a result of adding any stock for the portfolio, as shown in table (5).

<table>
<thead>
<tr>
<th>Number portfolio stocks</th>
<th>Unsystematic portfolio risk</th>
<th>Risk cutting off ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.0495</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>.02470</td>
<td>.500</td>
</tr>
<tr>
<td>3</td>
<td>0.0165</td>
<td>0.66</td>
</tr>
<tr>
<td>4</td>
<td>0.0123</td>
<td>0.750</td>
</tr>
<tr>
<td>5</td>
<td>0.0099</td>
<td>0.80</td>
</tr>
<tr>
<td>6</td>
<td>0.0082</td>
<td>0.830</td>
</tr>
<tr>
<td>7</td>
<td>0.0070</td>
<td>0.85</td>
</tr>
<tr>
<td>8</td>
<td>0.0061</td>
<td>0.87</td>
</tr>
<tr>
<td>9</td>
<td>0.0055</td>
<td>0.88</td>
</tr>
</tbody>
</table>

Table (5) shows that the unsystematic portfolio risk against the unsystematic portfolio risk is made up of stocks number, and the portfolio unsystematic risk cutting off ratio with increasing stocks per-time. It is clear that one-stock portfolio risk is double the two-stocks portfolio risk per-time. And increasing the portfolio shares number into three of its risk with ratio (66%), and (80 %) of its systematic risk can be collapsed through constructing portfolio from five normal stocks. Also, it can be observed that the systematic risk cutting off ratio reduces obviously when selecting (9) of stocks in portfolio, thus it is possible to collapse approximately (88%) from the unsystematic portfolio risk with number of constituent stocks number increasing into (9) of the common stocks.

According to the above, the hypothesis (the diversification can contribute in the investment portfolio risk cutting off) is accepted.

Conclusions & Recommendations

Conclusions
Set of conclusions have been determined as following:

1. According to the results, the banks have been submitted to the study can construct an investment portfolio contribute in the investment risk cutting off.
2. Fluctuating of banks returns, sample study, because of the circumstances which surrounded the banks.
3. Fluctuating of the bank stocks prices since the circumstances surrounded the country and instability.
4. Cutting off rate contributes in selecting the stocks which enter the banking portfolio.

**Recommendations**

1. Depending on the principle of diversification to investment risk cutting off with shares.
2. Expanding the researches to include different sections to recognize the diversification impact on different sections.
3. Depending on the investment in stocks having no relevance with other stocks.
4. The banks should have the investors' database for investment rationalization.

**References**


Al-Qahdi, Loreen Ibrahim, (2016). The effect of investment portfolio management efficient on the banks profitability. Thesis, Middle-East University,


