

## **Measuring Return and Risk of the Investment Portfolio for Agricultural Sector Companies Analytical Research in Iraq Stock Exchange**

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**Abstract.** This research aims to measure the revenue and risk of the agricultural investment portfolio of the companies of agricultural sector, which represented by group of private sector companies for the period from 2012 to 2017. This research consists of three main paragraphs. The first paragraph of the research deals with research methodology and measurement tools to be link between theoretical and practical aspects focuses on definition the scientific methodology of research to confirm the theoretical facts and hypotheses on which the research was based. The second paragraph deals with the conceptual framework of the investment portfolio and the conceptual framework of revenue and risk and the relationship between them. The third paragraph represents the practical aspect of the research, which focuses on the analysis of indicators of measurement of revenue and risk of the investment portfolio of the private agricultural sector. Analyses based on the annual data. The research concluded that there is a relationship of effect and correlation that makes the risk and revenue in linear relationship and the increasing in revenue results by risks increase.

**Key words:** *revenue, risk, investment portfolio, agricultural investment, agricultural sector.*

### **Introduction**

Investors and businessmen are increasingly interested in the investment portfolio in order to obtain high revenue with a lowest risk. They are face difficulties in the right selecting process for the investment decisions that require high revenue with a lowest risk. Therefore, it should take in consideration all studies and analyzes based on scientific standards due to the environment of the private works in the agricultural sector, research sample characterized as a changing seasonal which leads to a reflection on economic activity. In general, the measurement of the performance of any investment activity is achieved by knowing the rate of revenue which has verified from the investment in annual percentage through certain period, in view of the contents of the risk inherent in the mix of chosen financial papers which represent a translation of management decisions in this regard. However, the fundamental difference between the performance of an investment portfolio and the other is in fact in the form of the relationship between revenue and risk per share of those portfolios.

### 1.1 research problem

In order to ascertain the performance priority of an investment portfolio on the other is done only after accurate examination of the portfolio through conduct a financial analysis of the achieved revenue and risk which the portfolio is exposed and from this point is reflected in the research problem that the agricultural investment companies sample research is limited in conduct the financial analysis of revenue and risk in accordance with the statistical methods adopted to measure the revenue and risk of the agricultural investment portfolio.

### 1.2 Research Target

- 1 – Analyzing investment portfolio for the sector of agricultural investment, research sample.
- 2 – Analyzing systemic, non-systemic and overall risks for agricultural companies, research sample.

### 1.3 Research Importance

- 1 – The importance of research is reflected in providing an intellectual and practical framework to investors and analysts in the financial markets to manage the portfolio of agricultural investment.
- 2 – In the investment and analysis process, a trade-off between securities is made for the appropriate employment of the financial resources available to the companies, research sample.

### 1.4 Research Hypothesis

1. Adoption of scientific standards in raising achieved revenues reduces the overall risk that companies face, research sample.
- 2 - There is no moral effect have a statistical significant between total risk and investment revenue.
- 3 - There is no moral effect have a statistical significant between total risk and the right of property.

### 1.5 Research

The research is represented by sector of agricultural companies. The private sector was selected and they are six companies, either the time limit for the research included six years from 2012-2017.

## 6.1 - Financial and statistical methods used in research

Table (1) Financial and statistical methods used in research

Source	Details	Equation
Ross, et al 1996	The beta coefficient is a key element in finding investment risk over specific periods and is denoted by $\beta$ could be derived according to the following equation: The common variance between $R_i$ revenue and the revenue of market portfolio $R_m$	$R_i - R_m = \beta (R_m - R_f) + \epsilon_i$
Alameri 2013	The coefficient of variance, which could calculate through it the ratio of individual asset risk, which at the same time reflects the systemic risk: i.e. the standard deviation is divided by the expected revenue.	$C.V.R_j = \frac{\sigma_{R_j}}{E R_j}$
Alameri 2013	Systemic risk.	$R_M \times \sigma_{R_j} \beta^2 = \text{Risk Systemic}$

Dawood&Jadou', 2017	Total risk represents the sum of systemic and non-systemic risk.	<b>=Total Risk Risk Systemic+ un systemic Risk</b>
Dawood&Jadou', 2017	Arithmetic mean: The arithmetic mean represents the total number of views on its number.	<b>ERj/n =Xi</b>
Alameri 2013	Standard Link: A certain degree of interconnection between variables	$r = \frac{\sum_{i=1}^n ((x_i - \bar{x})(y_i - \bar{y}))}{\sqrt{\sum_{i=1}^n (x_i - \bar{x})^2 \sum_{i=1}^n (y_i - \bar{y})^2}}$
Alameri 2013	Regression where: Yi = revenue Xi = Risk $\hat{a} =$ Constant (Revenue Value when Risk = 0) $\hat{A} = \bar{y} - \bar{X} \hat{b}$	<b>bXi+ <math>\hat{a} = Yi</math></b>

## 2. Theoretical side

1.2 The concept of investment portfolio: The views of researchers and writers in financial management on the concept of investment portfolio are verified, some of them see it as a group of assets may be real assets such as real estate or financial like shares and statements (Weston, 1996: 336) and others who see it as a set of financial papers owned by a certain investor is composed of several types of financial assets (Ross et, al, 1996: 278,) also defined as a combination or set of investment papers whether it was real or financial owned by the investor in order to achieve a revenue and at a reasonable level of risk through diversify its components by following the correct scientific basics (Husseini&Doori, 2000:154) and there are other concepts of the investment portfolio, confirmed as a composed financial instrument and a mix of assets vary in type and quality, the goal of which get a bigger revenue at a lowest risk (Gitman, 2000: 250).

In witness whereof, the researchers believe that the concept of investment portfolio is called on package of assets owned by the individual or the investor company whether those assets represent real estate or shares and statements and even precious metals such as gold, silver and various commodities for the purpose of investment.

### 2.2 Controversy about revenue and risk

1.2.2: The concept of revenue: is a set of revenues resulting from investment during a certain period. The revenue represents the amount of money added to the basic capital which leads to maximizing the investor's wealth and the revenue to the level of the risk associated with the investment, which is the result of the following (Al Shebeeb:61:2010).

1) Portion per share of dividends

2) Increase or decrease in basic capital and the most important of these revenues:

1 - Revenue of Assets (ROI revenue of investment): This ratio measures the overall efficiency of the management in achieving the profits resulting from the investment process in the assets of the portfolio. This measure is one of the profitability measures of the bank in the short and long term of investment and the rise indicates the bank's efficient management policy and calculated according to the following equation: - (Al-Amiri, 2001: 141).

2 – The return of right of property: this ratio measure the achieved revenue for the investors from their money invested in the company and the rate of revenue of the right of property is the most

comprehensive measure to measure the effectiveness of the management as it reflects the profitability of the assets and the financing structure, it is consider a measure of the profitability of both investment decisions and financing decisions. (Hindi, 2004: 105).

This measure is as important as the other measures of profitability. The company's ROE is higher than the industry average, indicating that the shareholders receive higher rewards than their peers in the industry. This ratio is derived from the following equation (Al-Amiri, 2001: 142).

**2.2.2 Concept of Risk:** Risk is defined as the probability of achieving lower than expected revenue or negative (loose) (Abdulhadi, 2008: 239); risk is also defined as the probability of achieving a return or cash flow lower than the expected revenue. Whenever the risk increased; the probability increased of achieving lower or expected revenues or cash flows lower than the expected or negative (Al-Ali,2010:205). The risk level in some investments is zero such as government statments and bank deposits considered as Risk-free investments compared to financial investments in companies stocks, especially new ones or those that specialize in highly volatile transactions where its risks increased to a high level (Al-Shama, 1992: 406). Gitman believes that risk is the loss of financial opportunities or any expected change in volatile the revenue of the invested existing (Gitman, 2009: 88). Investors' view of risk is divided into three categories: (Gitman, 2009: 88)

1. Investor is not interested in risk: According to this type of risk, investors want a revenue that is not affected by the transfer of risk from 1X - 2X as shown in Figure (2) i.e. that the investor does not want a change in the rate of return required when the risk increases to a certain extent.
2. Adventurer Investor or Risk Seeker: Some investors in this type of risk tend to invest in high risk assets because they recognize that the higher risk is associated with higher revenues and therefore the extra portion of the risk is associated with extraordinary revenues.
3. Risk avoid investor: Investors of this type want to increase the revenue with any increase in risk and most investors are of this type and demand higher expected revenues to compensate them for higher risk so the revenue required for higher risk assets are higher than in the lower risk assets due to increase of risk. Figure (2) represents the basic behaviors in risk preference.

### **3.2.2 Types of risk**

1 - Systemic Risk: It affects the revenue and profit of all types of shares traded in the bank and usually occur when a major event affected by the entire market, such as a war or change the political system and the investor must know beforehand the affect of shares that he own by this kind of risk which all stocks are affected of in varying degrees and a beta coefficient is used to measure these risks (Abdulhadi, 2008: 35).

2. Non-systemic risks: These are the ones that remain after deducting systemic risk from the total risk that the stock may be exposed to in the market. This type of risk is caused by certain events that may affect the revenues of the specific stock. The investor can protect himself against this risk by diversifying his investments. (Abdelhadi, 2008: 34).

3. Total risk: Total risk is defined as the total variance in the rate of revenue on investment in securities or in another investment field. The combination of systemic risk and non-systemic constitute the overall risk or portfolio risk. This risk shall be bear by the investor in securities while the investor can avoid the impact of non- systemic risk through diversification; he cannot avoid the effect of systemic risk (Al-Douri 2010: 205).

4.2.2 The relationship between risk and revenue: To understand the relationship between risk and revenue, shall start with a portfolio containing an equity, the more stocks we add to the portfolio, the standard deviation of the portfolio will decline continuously and this is the benefit of diversification. At some point when the portfolio is filled with stocks; The benefits of diversity will start in decreasing, the increase in the portfolio's contents of shares from (3) to (4) may

significantly reduce the risk level and thus increase the benefit but increasing stocks from (700) to (701), this does not reduce the risk. Per share two sources of risk, external and internal risks, the first type which is directly related to the company's management for example the occurrence of a fire in its warehouses, and the second type of risk related to the market in general and the climate in which the company operates. The changes in the economy as a whole and in the investment environment in the market are factors that affect the returns of all revenues of all shares for all the companies operating in the market; that what is mean by market risk. Market risks cannot be disposed by diversification, they are fundamental risks affect all investments and therefore all shares. Moreover, not all shares are at the same level of risks, where some investments are very sensitive to market movements and others are not so sensitive. If diversity reduces risk, the diversity decision is related to the investor itself. Share prices do not play a role in diversification, there is no two prices for share One for diversity and the other for non-diversity (Kadawi, 2009: 1).

The risk of the market is measured by the use of the beta coefficient. If the beta coefficient is equal to one, the investment mode moves with the market step by step. If the beta coefficient is bigger than one, the risk rate of investment rises at a higher rate than the changes in the market. If Beta is less than one, the risk rate is less than the market changes. Beta values for most stocks in the financial markets range from (0.5 to 1.5). There are many statistical methods that can be used in forecasting, such as variance and standard deviation (Abdelhadi, 2008:244).

#### 4. Practical side

1.4 Analysis of Investment revenues for the Investment Sector research sample includes analysis of the rate of revenue of assets and the rate of revenue of the right of property as well as the analysis of systemic, non-systemic and total risk for agricultural investment companies, as follows:

##### 1. Analysis of revenue on assets

**Table (2) Rate of revenue on assets for the sample of the banking sector for the period 2012-2017**

<b>Agricultural Investment Companies</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>Average</b>
<b>Modern company for animal and agricultural production</b>	0.05	0.04	0.011	0.015	0.001	0.002	0.019
<b>Private company for animal and agricultural production</b>	0.06	0.03	0.035	0.02	0.003	0.015	0.026
<b>Middle East Company for the production and marketing of fish</b>	0.02	0.02	0.03	0.015	0.004	0.003	0.015
<b>Iraqi Company for the production of seeds</b>	0.02	0.02	0.025	0.02	0.001	0.002	0.014
<b>Iraqi Company for the production and marketing of meat and field crops</b>	0.006	0.02	0.03	0.02	0.001	0.018	0.013
<b>The Iraqi Company for the production and marketing of agricultural products</b>	0.016	0.001	0.01	0.01	0.002	0.005	0.007
<b>Average</b>	<b>0.028</b>	<b>0.021</b>	<b>0.023</b>	<b>0.016</b>	<b>0.002</b>	<b>0.007</b>	<b>0.016</b>

Table (2) shows the rate of revenue on assets of the research sample companies, which showed that the Private Company for Animal and Agricultural Production achieved a rate of revenue on

assets during the period of 0.026, which is higher than the rate of revenue of the agricultural sector portfolio of 0.016. The company achieved the highest rate of revenue on assets with revenue on the portfolio of the sector and average revenue of 2012, 2013, 2014 and 2015, which is reached to 0.06, 0.03, 0.035 and 0.02 respectively, in 2016 and 2017, achieving the lowest revenue on assets compared to the average revenue of the company, which is reached to 0.003 and 0.015 respectively, followed by Modern company for animal and agricultural production and the Middle East Company for the production and marketing of fish and Iraqi Company for the production of seeds and Iraqi Company for the production and marketing of meat and field crops, reached to 0.019, 0.015, 0.014, 0.013 respectively, while The Iraqi Company for the production and marketing of agricultural products was ranked last in the average revenue on assets compared to the agricultural sector's portfolio amounted to 0.007.

## 2 - Analysis of the revenue on the right of ownership

**Table (3) Rate of revenue on the right of ownership of the banking sector sample for the period 2012-2017**

<b>Agricultural Investment Companies</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>Average</b>
<b>Modern company for animal and agricultural production</b>	0.22	0.12	0.18	0.17	0.02	0.02	0.121
<b>Private company for animal and agricultural production</b>	0.20	0.40	0.29	0.32	0.015	0.01	0.205
<b>Middle East Company for the production and marketing of fish</b>	0.17	0.20	0.15	0.10	0.018	0.025	0.110
<b>Iraqi Company for the production of seeds</b>	0.12	0.11	0.15	0.18	0.01	0.01	0.096
<b>Iraqi Company for the production and marketing of meat and field crops</b>	0.04	0.11	0.10	0.15	0.01	0.02	0.071
<b>The Iraqi Company for the production and marketing of agricultural products</b>	0.02	0.01	0.01	0.20	0.014	0.011	0.044
<b>Average</b>	0.128	0.158	0.146	0.186	0.014	0.016	0.108

Table (3) shows the rate of revenue on the right of ownership of the companies in the sample of the research, which showed that the Private company for animal and agricultural production has achieved the highest average revenue on ownership during the above period, reached to 0.205, which is higher than the rate of revenue of the agricultural sector portfolio of (0.108). In 2014, the company achieved the highest rate of revenue of 0.40 in terms of the revenue on the portfolio of the sector and the average revenue of the company. Followed by the Modern company for animal and agricultural production, which achieved a rate of revenue on ownership of (0.121) during the above period, which is higher than the rate of revenue on the portfolio of the sector and the company above achieved the highest rate of revenue during the study period in 2012, which is (0.22) and then the Middle East Company for the production and marketing of fish achieved a rate of revenue (0.110), which is equal to the rate of revenue of the sector's portfolio. The Iraqi Company for the production of seeds and the Iraqi Company for the production and marketing of meat and field crops achieved a rate of revenue on ownership of 0.096 and 0.071 respectively, which is lower than the rate of revenue on ownership, while The Iraqi Company for the production and marketing of agricultural products ranked last in terms of revenue, as the rate

of revenue was during the study period (0.044), which is lower than the average revenue of the portfolio sector.

### 3. Analysis of the systemic and non-systemic risk of the study sample for the rate of revenue on assets

**Table (4): Systematic, non- systemic and total risk for revenue on assets for the period 2012-2017**

<b>Agricultural Investment Companies</b>	<b>Systemic Risk</b>	<b>Non-Systemic Risk</b>	<b>Overall Risk</b>	<b>Beta coefficient <math>\beta</math></b>	<b>Standard Deviation <math>\sigma_{\text{S}}</math></b>	<b>Coefficient of variation C.V</b>
<b>Modern company for animal and agricultural production</b>	<b>0.304</b>	<b>2.26</b>	<b>2.564</b>	<b>-0.96</b>	<b>0.0074</b>	<b>0.37</b>
<b>Private company for animal and agricultural production</b>	<b>0.139</b>	<b>2.24</b>	<b>2.379</b>	<b>0.65</b>	<b>0.0100</b>	<b>0.370</b>
<b>Middle East Company for the production and marketing of fish</b>	<b>7.352</b>	<b>2.23</b>	<b>9.582</b>	<b>4.72</b>	<b>0.0055</b>	<b>0.366</b>
<b>Iraqi Company for the production of seeds</b>	<b>167.06</b>	<b>2.26</b>	<b>169.32</b>	<b>22.5</b>	<b>0.0194</b>	<b>0.373</b>
<b>Iraqi Company for the production and marketing of meat and field crops</b>	<b>15.711</b>	<b>2.27</b>	<b>17.981</b>	<b>6.90</b>	<b>0.0059</b>	<b>0.368</b>
<b>The Iraqi Company for the production and marketing of agricultural products</b>	<b>4.112</b>	<b>2.63</b>	<b>6.742</b>	<b>5.53</b>	<b>0.0026</b>	<b>0.371</b>
<b>Risks of Sectors</b>	<b>32.44</b>	<b>2.31</b>	<b>34.76</b>	<b>6.55</b>	<b>0.008</b>	<b>0.369</b>

Table 4 shows an analysis of beta, standard deviation, and variance coefficient as a measure of total risk. The risk level for all companies was low (2.564, 2.379, 6.742, 9.582, 17.981, respectively) compared to the total risk of the sector (34.76), except for Iraqi company for seeds production which the level of risk of it reached to (169.32), and it is higher than the overall risk level of the sector. This is achieved through the company's high beta coefficient which is (22.5). The high risk level is consistent with the high coefficient of variation and the low risk level is consistent with the low variation coefficient.

### 4. Analyzing the systematic and irregular risk of the research sample for the rate of revenue on the right of ownership

**Table (5): The systemic, non-systemic and the overall of the sample of banks for the period 2012-2017**

<b>Agricultural Investment Companies</b>	<b>Systemic Risk</b>	<b>Non-Systemic Risk</b>	<b>Overall Risk</b>	<b>Beta coefficient <math>\beta</math></b>	<b>Standard Deviation <math>\sigma_{\text{ss}}</math></b>	<b>Coefficient of variation C.V</b>
<b>Modern company for animal and agricultural production</b>	<b>0.070</b>	<b>2.213</b>	<b>2.283</b>	<b>0.39</b>	<b>0.0442</b>	<b>0.371</b>
<b>Private company for animal and agricultural production</b>	<b>0.019</b>	<b>2.26</b>	<b>2.279</b>	<b>0.208</b>	<b>0.0769</b>	<b>0.373</b>
<b>Middle East Company for the production and marketing of fish</b>	<b>0.318</b>	<b>1.60</b>	<b>1.918</b>	<b>0.83</b>	<b>0.0304</b>	<b>0.273</b>
<b>Iraqi Company for the production of seeds</b>	<b>0.400</b>	<b>2.26</b>	<b>2.66</b>	<b>0.93</b>	<b>0.0362</b>	<b>0.373</b>
<b>Iraqi Company for the production and marketing of meat and field crops</b>	<b>0.219</b>	<b>2.24</b>	<b>2.459</b>	<b>0.69</b>	<b>0.0268</b>	<b>0.372</b>
<b>The Iraqi Company for the production and marketing of agricultural products</b>	<b>0.124</b>	<b>2.36</b>	<b>2.484</b>	<b>0.52</b>	<b>0.0165</b>	<b>0.375</b>
<b>Risks of Sectors</b>	<b>0.191</b>	<b>2.152</b>	<b>2.347</b>	<b>0.594</b>	<b>0.038</b>	<b>0.356</b>

Table 5 shows an analysis of the beta coefficient, standard deviation, and coefficient of variation as a measure of overall risk. The risk level for all companies was found to be close to each other and less than in the overall risk of the sector of (2.347) except for Iraqi Company for the production and marketing of meat and field crops and The Iraqi Company for the production and marketing of agricultural products with a level of risk (2.459 and 2.484) respectively, which is higher than the total risk level of the sector as well as the beta and the difference coefficient of companies for the research sample and the Middle East Company for the production and marketing of fish achieved the lowest level of risk other companies with a total risk level of 1.918.

### **5. Analysis of correlation and effect between total risk and rate of revenue on assets**

For the purpose of conducting correlation and impact analysis between total risk (independent variable and rate of revenue on variable assets approved) for agricultural investment companies, the correlation equation was used to measure the strength of the relationship between the variables and The coefficient of selection was used to determine the change in the rate of revenue on investment (assets) in terms of the overall risk effect. To calculate the amount of change in



revenue on the overall risk effect, The regression equation is  $(b x_i + a = y_i)$  where (b Regression coefficient) represents the amount of the change in revenue ( $y_i$ ) when the total risk ( $x_i$ ) changes by one unit and the constant (a) represents the revenue value when the risk is zero.

**Table (6): Summary of the relationship and the effect between the total risk and the rate of revenue on assets of the sample banks for the period 2012-2017**

Relationship	2012	2013	2014	2015	2016	2017	Average
<b>Coefficient of correlation (r)</b>	0.40	0.50	0.65	0.62	0.60	0.36	0.52
<b>Stable Regression (a)</b>	0.04	0.06	0.07	0.05	0.08	0.04	0.056
<b>Regression coefficient (b)</b>	1.15	1.20	2.5	2	1.91	.60	1.56
<b>Determination coefficient (R<sup>2</sup>)</b>	0.16	0.25	0.422	0.384	0.36	0.129	0.284

Table (6) shows the results of the statistical analysis of the sample companies during the period of study. The results of the analysis showed a correlation relationship during this period and a significant effect on the total risk on revenue on assets during the research period. The results of the table above show that the correlation between total risk and the rate of revenue on assets in 2014 was 0.65, which is the strongest correlation, indicating a strong and positive correlation when compared with the rest of years. The lowest correlation coefficient in 2017 was (0.36). The average correlation coefficient for all years was (0.52) indicating a moderate correlation relationship between total risk and the rate of revenue on assets. The results of the statistical analysis also showed that the effect of the overall risk on the rate of revenue on assets was weak to average, which is reached to (0.422) in 2014, indicating that each increase in one unit of total risk leads to an increase in the weakness of the revenue of 2.5, This means that (42%) of the changes in the revenue is caused by the change in risk, that is, the relationship between risk and revenue is a linear relationship in a positive (42%), which is contrary to the hypothesis of nothingness. When in 2015, it is reached to (0.384) indicating that each increase in one unit of total risk leads to an increase in the amount of revenue (2) which means that (38,4%) of the changes in the revenue caused by the change in risk. i.e. The relationship is linear between risk and revenue (38,4%) which is also contrary to the hypothesis of nothingness. In 2014, the effect of the overall risk on the revenue was average (36%), indicating that each increase in one unit of total risk leads to an increase in the revenue (1.91), i.e., the relationship between risk and revenue of (36%) Of them is linear and this also contradicts the hypothesis of nothingness as well. In 2013, 2012 and 2017, it is reached to (0.25, 0.16 and 0.129), respectively, indicating a weak relationship, generally for the years of research, the effect of the overall risk on the revenue was weak, which is (0.284), i.e. each increase by one unit in total risk leads to an increase of (1.56) in revenue. This means that (28,4%) of the changes in revenue are caused by the change in risk, i.e., the relationship is linear between risk and revenue.

6. Analysis of the correlation relationship and the impact between the total risk and the rate of revenue on the right of ownership

**Table (7): Summary of the relationship and the effect between the total risk and the rate of revenue on ownership of the research sample**

Relationship	2012	2013	2014	2013	2014	2015	Average
<b>Coefficient of correlation (r)</b>	0.45	0.57	0.53	0.61	0.29	0.31	0.46
<b>Stable Regression (a)</b>	0.32	0.05	0.053	0.07	0.12-	0.14-	0.03

<b>Regression coefficient (b)</b>	13.10	20.2	17.9	35.8	-31.2	-37.7	3.01
<b>Determination coefficient (R<sup>2</sup>)</b>	0.20	0.32	0.28	0.37	0.08	0.09	0.22

The results of the statistical analysis of the agricultural investment companies show the research sample shown in Table (7). The correlation between total risk and the rate of revenue on ownership in 2015 was the strongest (0.61) and it is a strongest and positive correlation compared with the rest of the years. In 2013 and 2014, the correlation between total risk and revenue on ownership is reached to (0.57 and 0.53) respectively, which was medium and positive, while the correlation for the years (2012, 2017 and 2016) was weak, which was (0.45, 0.31, 0.29) respectively. The results of the analysis showed that there was a significant effect on the overall risk on the rate of revenue. The results showed that the effect of the risk was moderate on the rate of revenue on ownership in 2015 and 2013, which was (37% and 32%) respectively. Each increase in one unit of total risk leads to an increase in the rate of revenue on ownership which is (20.2 and 35.8 respectively). This means that 37% and 32% of the changes in the revenue on ownership are caused by the change in risk, i.e. the relationship between risk and revenue is a linear relationship and this contradicts the hypothesis of nothingness. In 2014, the impact of the total risk on the rate of revenue was 28% and each increase in one unit of total risk leads to an increase of 17.9% in the revenue. This means that 28% of the changes in the revenue are caused by the change in risk, which means that the relationship is linear between risk and revenue on ownership (28%). This also contradicts the hypothesis of nothingness. In 2012, the total risk effect on the rate of revenue was (20%) and each increase in one unit of total risk leads to an increase of (13.10) in the revenue. This means that (20%) of the changes in the revenue caused by the change in risk, i.e. the relationship is linear between risk and revenue on ownership (20%). This also contradicts the hypothesis of nothingness.

In 2014-2015, the impact of the risk on the revenue was weak, reached to (0.08, 0.09) respectively, which is reflected in the nature of the relationship between the risk and the rate of revenue on ownership, indicating acceptance of the hypothesis of nothingness. In general, for the years of research, the effect of the overall risk on the revenue was weak (0.22). Any increase by one unit in the total risk leads to an increase of 3.01 in the revenue. This means that 22% of the changes in the revenue are caused by the change at risk, i.e. the relationship is linear between risk and revenue of (22%) of which is contrary to the hypothesis of nothingness.

## 5. Search results

- 1 - The investment portfolio is of interest to businessmen and investors as it represents the outcome of the total sources of funding and allocation of these funds in the investments worthwhile for the companies sample research.
- 2 - There is interest in optimizing the resources available in investments that achieve the revenue sought by the investor.
3. There is a reciprocal relationship between risk and revenue; consequently, attention should be paid to less risky projects.
4. Agricultural investment companies vary for levels of revenue on assets (revenue on investment) significantly during the years of research so we see high for one year and low for another year as well as the differences between companies and another, indicating the volatility of economic conditions since 2003 until the present.
5. The levels of risk among the companies of the sample are clearly different as they reached the highest level of risk for the Iraqi Company for the production and marketing of meat and field crops and the Iraqi company for the production and marketing of agricultural products. This

indicates the high revenue of these banks is accompanied by an increase in the level of overall risk for this company also.

6. There is a correlation and effect between total risk and revenue on assets and total risk and revenue on ownership.

7. Study all the problems experienced by companies, including economic stagnation and losses and help them to improve their reality and competition.

8. Companies should study all aspects of revenue and risk levels and use diversification to obtain an optimal portfolio of investments to avoid the risks of significant economic fluctuations.

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