The Impact of Reinsurance Operations on Earnings Management in Jordanian Insurance Companies Listed on the Amman Stock Exchange

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Abstract: This study aims at identifying the impact of reinsurance operations on earnings management in the 16 Jordanian insurance companies listed on the Amman Stock Exchange for the period 2014-2018. The data and information were collected from the financial statements and reports of these companies. OLS Regression was used to test the hypothesis of the study. The findings of the study show that there is a positive impact of reinsurance operations on the earnings management in the Jordanian insurance companies, i.e. there are high earnings management practices in companies that have flowed for the insurance operation.

The study recommends that other insurance tools should be used, whether legal, mutual or facultative reinsurance.

Keywords: reinsurance; earnings management; insurance companies.

1. Introduction

Insurance plays an important role in the modern economy, where various types of insurance companies are nowadays performing many functions, as they are a tool for saving, investing and financing. Insurance companies are considered financial institutions that collect money and then invest it in various economic fields (Weiss, 2019).

Insurance companies reinsure part of their operations with other companies, whether companies that specialize in reinsurance operations or normal insurance companies.

The reinsurance is one of the most important operations that these companies perform, whether with external or local companies, given that they transfer money for partial or full insurance with these companies. This may, therefore, affect their profits, financial liquidity, and financial position.

Earnings management is considered one of the phenomena that emerged at the end of the last century. It describes an accounting and financial phenomenon when some companies seek to create a good impression of the businesses they do. They do so by showing their annual profit in a way that implies that a company's revenue status is good for users. The earnings management is performed through management practices resulting from the selection of a company's accounting policies, to mislead shareholders and users of financial statements (Gul et al., 2013). Thus, this study aims to show the impact of reinsurance operations on earnings management in insurance companies.

1.1. Research Problem

The study seeks to identify the relationship between reinsurance operations and earnings management and their impact on the financial statements and test the impact of that relationship on earnings management.

1.2. Research Significance

This applied study is significant since it seeks to verify that both incoming and outgoing reinsurance operations have an impact on earnings management practices in Jordanian insurance companies listed on the Amman Stock Exchange. This is achieved by examining reinsurance premiums, whether paid or received, and their impact on optional and total benefits to measure earnings management. In theory, this study highlights the concepts of reinsurance and earnings management in Jordanian insurance companies.
1.3. Research Objectives
This study aims to identify the impact of reinsurance operations and earnings management performed by insurance companies, by defining the reinsurance operations and the relationship between them and the earnings management in Jordanian insurance companies listed on the Amman Stock Exchange. It also seeks to test a company's ability to limit earnings management practices carried out to increase confidence in the financial statements and reports issued by these companies.

1.4. Research Hypotheses
To achieve objectives and address the problem of this study, the following hypothesis was developed:

H0: There is no statistically significant effect of reinsurance operations on earnings management in Jordanian insurance companies listed on the Amman Stock Exchange.

2. Theoretical Framework and Literature Review
Reinsurance is the transfer of part or all of the insurance business contracted by an insurance company to another insurance company (Reinsurance Company), where the value of the insurance amount held by the former company is under the name of retention, while the latter company is under the name of the assignee. The reinsurance company may reinsure its business with a third company (reinsurance), and the insurance company uses reinsurance companies for protection against losses. The reinsurance operation provides protection and minimizes a company's losses where the reinsurance company pays part or all of the losses that exceed a company's retention limit.

2.1. Importance of Reinsurance
- It helps increase the underwriting capacity of an insurance company, where an insurance company, when insuring part or all of its insurance business, can accept some insurances that exceed its retention limit, and then it can reinsure the excess limit with another insurance company.
- It contributes to the stability of profits where reinsurance can reduce the effects of large fluctuations in the financial results of the insurance company due to changes in economic and social conditions and natural disasters faced by the country in which the insurance company is located.
- It reduces the unearned premium provision, as the reinsurance operation reduces the amount of the earned premium provision required by law.
- It protects against losses as the reinsurance operation provides protection reduces losses, as the reinsurance company pays part or all of the losses that exceed the company's retention limit.
- It excludes certain types of insurance, as reinsurance allows the transfer of the insurer's obligations from the applicable insurance to another insurer, and the insurer remains financially responsible for covering the insurance policies.
- It helps receive advice and assistance from the reinsurer as the reinsurer provides assistance related to pricing, retention limits, and policy cover.
- It helps protect insurance companies from bankruptcy. If an insurance company insures a significant risk, it may go bankrupt when the risk occurs, but when it reinsures that risk with one or more reinsurance companies, the reinsurance companies will pay a certain percentage of the loss that equals to the percentage that was accepted for reinsurance. This will keep an insurance company in a safe position.
- Reinsurance methods are divided into proportional and non-proportional insurance agreements. The proportional agreements determine the share that the company wants to bear from the size of the insurance, and place the remaining balance with the reinsurance company. Under such agreements, several insurance companies are used and insurance premiums and losses are distributed proportionally among the insurance or reinsurance companies. As for the non-proportional agreements, they depend on the loss ratio that the insurance company wants to bear.

2.2. Types of Reinsurance
- **Facultative Reinsurance**: a company optionally reinsures its insurance operation with another company or according to an agreement.
- **Obligatory Reinsurance**: a company reinsures part or all of its insurance operation with other companies.
- **Compulsory Reinsurance**: a company reinsures part or all of its insurance operation with other companies under the law that obliges the local company to reinsurance with national companies.

Hence, reinsurance is a complement to the idea of insurance, i.e. fragmentation of risks and losses to be distributed among companies.
2.3. Incoming and Outgoing Reinsurance Operations

Insurance companies receive reinsurance operations from other insurance companies, according to the reinsurance policies specifying the terms agreed between the two companies, showing the percentage of the premiums in which, the company is reinsured, the commission, the insured risks, the percentage of the company’s contribution to compensation, reinsurance period, etc. Incoming reinsurance operations do not differ from direct insurance operations, except that those insured in direct insurance are the insured clients in reinsurance, which are insurance companies or other reinsurance companies.

2.4. Recording Incoming and Outgoing Reinsurance Operations

The incoming reinsurance operations are recorded in the same direct insurance records according to the type of insurance. An insurance company may allocate records to prove the incoming reinsurance operations, reinsurance premiums received by the company from other insurance or reinsurance companies, the commissions incurred by the company in return for that as well as the compensation so that a company has full statistical data on reinsurance operations for each type of insurance. The central daily entries for incoming reinsurance operations are similar to those explained in the revenue section. Usually, reinsurance premiums are not collected from other insurance or reinsurance companies. Commissions and compensation are not paid to these companies immediately after each reinsurance operation, rather current accounts are opened for each company in the other books of the company and the settlement between the two companies is made at the end of each accounting period. At the end of the fiscal year, accounts for reinsurance operations contained in the accounts of direct insurance operations are closed (premiums and compensation).

The incoming reinsurance commission incurred by the company is considered one of the elements of expenses and is closed at the end of the fiscal year on the debit side of the revenue and expense account allocated to the insurance branch.

2.5. Concept of Earnings Management

Earnings management is described as (cosmetic accounting, creative accounting, financial engineering, gains facilitation, and income facilitation), where the concept of earnings management is used in the United States while the concept of creative accounting is used in Europe. Many studies paid attention to earnings management, including (Francis and Yu, 2009; Gul et al., 2013; Kwon et al, 2014) which is performed by companies in general and by public shareholding companies in particular.

The earnings management has a clear effect on the quality of the financial statements issued by various companies, and therefore this effect is reflected in the parties interested in the financial statements to make different decisions. According to (Fields et al., 2018) earnings management is personal estimates that executives use when preparing published financial reports to mislead users of these statements or to influence the level of achievements of a company that is managed to serve the contractual relationship between management and owners (shareholders).

2.6. Aim of Earnings Management

Some companies use earnings management to achieve the desired goals and this is done through expenses and revenues and the management of reserves. The management seeks to reduce fluctuations in the financial statements and maintain a certain degree of profit growth to mitigate the risks and show the financial performance of the company in its natural and stable position. Therefore, the researchers unanimously agree that there are two motives for the practice of earnings management. The first motive is related to achieving management-related goals, and the second is related to influencing interested parties in accounting information by demonstrating the efficiency of the company in achieving its goals to continue its business in the competitive market (Rankin et al., 2012).

2.7. Earnings Management Practices

The company’s management has interventions in earnings management from several areas related to its relationship with the company. Examples of this include but not limited to Schaltegger and Burrit (2017)

- Managers use the full completion method or the percentage of completion that relates to long-term contracting agreements, and the aim is to provide ideal estimates for the business that has been completed.
- To calculate ideal estimates for the useful life and scrap value of the asset for which the depreciation premium calculation is required, and then reduce the depreciation expense and maximize profits.
- To classify some of the costs that were not included in the production process as production costs, which are the costs of a period, and therefore this leads to lower expenses for the period and to maximize profits.
- Profits that result from the sale of assets must be recognized during the period in which this process takes place. However, management of the company manipulates the timing of recognition associated with the sale process such as fixed assets and the securities leading to the increase in profits.
• The management treats the expenses of the period as non-periodic (capital) expenses and is charged to the assets, as it must treat them as periodic expenses, and this maximizes profits accordingly.
• The management accelerates the sale process, to increase profits, and this is done by providing customers with incentive payments.

2.8. Consequences of Earnings Management Practice

The management realizes that earnings management practice brings benefits to the company in the short term, but it may lead to serious problems in the long term, namely (Clikeman, 2003).

• Concealing the Operational Management Problems
  Earnings management practice is not limited to senior management only, as it is practiced at the level of operational management.
  The operational management managers rectify the financial statements to obtain promotions and rewards or avoid bad criticism on performance. Therefore, the most important risks of earnings management lie in the management where they do not inform the senior management of the operation problems, which keeps the mistakes for a long period without finding solutions.

• Staying away from ethical standards
  Even if earnings management does not explicitly violate accounting standards, its practice is morally questionable since the practice of earnings management and informing employees that misrepresenting and concealing facts is acceptable to constitute an ethical climate that permits the existence of other questionable things, leading to gradual lack of ethics, and then creating fundamental errors in the financial statements.

• Reducing Value of the Company
  In some cases, management makes many operational decisions to influence short-term profits. However, such decisions lead to damages to economic efficiency in the long-term. For example, the company postpones the revenues that are made by selling a product on October 27 on terms that may be better if it is sold to the same customer in February of the next year. This applies to the discretionary expenses, where the delay of which leads to damage to the company's performance in the long term and consequently delays the research and development, training of workers, and maintenance, which may result in a loss in the company's share in the financial markets, low production and equipment failure.

2.9. Ways to Reduce Earnings Management Practice

Flexibility available in accounting standards is a way to facilitate the practice of earnings management by a company's management. The standards makers, therefore, make great efforts to limit the earnings management practice, including (2016, Shahzad):

• To encourage disclosure of discretionary matters.
• To be accurate and not to deviate from the scope of standards when applying, including requirements for disclosure of each standard.
• To determine a suitable time to apply the standards.

Due to the novelty of the study, it was difficult to obtain studies directly related to the topic. The following are some studies that cover some aspects of the topic:

• Somali (2010) Factors affecting profitability in Jordanian insurance companies
  This study aims to identify the factors affecting the profitability of the Jordanian insurance companies measured by several profitability rates and some structural indicators of a company's capital, like a company's size, ownership structure, debt ratio, and maturity and some factors affecting the insurance business. The findings of the study show that there is a direct relationship between the size of the company and the profitability rate in insurance companies, and it recommends that insurance companies should cooperate in terms of data and information.

• Cardoso, Martinez and Teixeira, (2014) "Free Cash Flow and Earnings Management in Brazil: The Negative Side of Financial Slack"
  This study aims to identify whether the management of the Brazilian companies that enjoy high free operating cash flows and relatively weak growth rates practice earnings management, to avoid investing in projects with a negative net present value. The study population was all non-financial companies listed on the Brazilian market. The findings of the study show a positive effect of free operating cash flows on earnings management in Brazilian companies, i.e. earnings management practices in Brazilian companies increase when there is a high free operating cash flow. However, the findings of the study show a negative effect of the growth rate on earnings management in Brazilian companies, i.e. the Brazilian companies with low growth rates tend to practice earnings management.
• Abu Ruman (2017) "Effect of Earnings Management on Profit Distribution Policy"

The study aims to investigate the impact of earnings management on dividends policy for Jordanian banks listed in the Amman Stock Exchange whether dividends policy affected by the earnings management practices. The sample includes 112 year - observations over seven years 2009 - 2015 for all 16 banks divided into 13 commercial banks and 3 Islamic banks. Using panel logistic regression analysis and model to predict the dividend-paying ability of the banks and test the study hypotheses, the findings of the study indicate that earnings management has a significant negative impact on dividends policy, furthermore, the results show that larger and more profitable banks tend to pay dividends, the study recommends earnings management practices.

• Abu Aisha (2019) "Effect of Technical Accounting Provision of Insurance Operations on Profitability of Insurance Companies Listed on Amman Stock Exchange"

This study aims to explain the impact of the technical accounting provisions for life insurance operations on the profitability of insurance companies listed on the Amman Stock Exchange for the period 2014-2018, which are in their financial statements technical accounting provision and number (19) through the use of Views software for cross-sectional time series analysis. The researcher used to measure profitability, return on assets, return on equity and return on investment, while the natural logarithm of the value of the technical accounting provisions for life insurance operations was used as an independent variable. The results of the use of the regression equation for panel data shows a negative impact of the technical accounting provision for life insurance operations on the return on assets of insurance companies listed on the Amman Stock Exchange, The researcher recommended that future studies should be carried out using indicators other than profitability indicators.


This study aims at identifying the impact of the elements of medical insurance contracts on the profitability of hospitals- a case study. To this end, the researchers collected the financial statements and the analytical reports of medical claims and the determinants of the origin of these claims (the actual deduction) from the accounts of the Islamic Hospital as well as the contracts and agreements signed between the Islamic Hospital and insurance companies showing the agreed contractual deduction on the hospital services, (The Medical Laboratories Department, Radiology Department, Pharmacy Department, Medical Procedures Department, and Medical Supplies Department) for the period 2006-2016. A set of appropriate statistical methods were applied through the SPSS program. The study results show that the study variable has, to a large extent, an impact on the profitability of the Islamic Hospital. The study provided a set of recommendations, mainly: establishing a division of medical approvals and audits that coordinates between the insured and the insurance company to guarantee the veracity of medical procedures.

3. Methodology of the Study

To achieve the objectives of the study, the study population is composed of 16 Jordanian insurance companies listed on the Amman Stock Exchange, according to the website of Amman Stock Exchange, for the period 2014-2018.

The Descriptive Analytics Approach was used in this study depending on a set of research tools in theoretical and applied aspects based on the data and information contained in the financial reports and statements of the insurance companies to test the hypothesis of the study. The following variables were used to achieve the objectives of the study:

• Independent Variable (Reinsurance Operations):

The following equation was used to measure reinsurance operations:

\[ \text{Net premiums} = \text{received and accrued premiums} + \text{received reinsurance premiums} - \text{paid reinsurance premiums} \]

Where:

- **Received reinsurance premiums**: the sums payable to the company for reinsurance business by other companies.
- **Paid reinsurance premiums**: the sums payable by the company for reinsurance with other companies.

• Dependent Variable (Earnings Management):

The modified Johns model was used to measure earnings management as (Subramanyam, 1996) indicated that it was the strongest model used in the disclosure of earnings management. It also provided evidence that the optional benefits estimated by this model are priced by the market. However, the coefficient of optional benefits is less valuable than the coefficient of non-optional benefits. This means that market parties see optional benefits as a less reliable element, which means that the optional benefits are more prone to manipulation by managers and are therefore a valid measure of earnings management.

The optional benefits were used to measure earnings management so that the equation taken from the following study was modified in proportion to the study variables. (Cardoso, Martinez and Teixeira, 2014).
Optional benefits = total benefits – non-optional benefits

\[ DA_{i,t} = (TACC_{i,t} / TA_{i,t} - 1) - NDA_{i,t} \]

Where:
- \( DA_{i,t} \): optional benefits of (X) company in (X) year
- \( TACC_{i,t} / TA_{i,t} - 1 \): total benefits of (X) company in (X) year
- \( NDA_{i,t} \): non-optional benefits of (X) company in (X) year

\[ TACC_{i,t} / TA_{i,t} - 1 = \alpha_1(1 / TA_{i,t} - 1) + \alpha_2(\Delta REV_{i,t} / TA_{i,t} - 1) + \alpha_3(PP_{i,t} / TA_{i,t} - 1) + \varepsilon_t \]

Where:
- \( TA_{i,t} - 1 \): total assets of (X) company in (X-1) year
- \( \Delta REV_{i,t} \): change in revenues of (X) company in (X) year
- \( PP_{i,t} \): long-term assets of (X) company in (X) year

\[ NDA_{i,t} = \alpha_1(1 / TA_{i,t} - 1) + \alpha_2(\Delta REV_{i,t} - \Delta AREC_{i,t} / TA_{i,t} - 1)) + \alpha_3(PP_{i,t} / TA_{i,t} - 1) \]

Where:
- \( TA_{i,t} - 1 \): total assets of (X) company in (X-1) year
- \( \Delta REV_{i,t} \): change in revenues of (X) company in (X) year
- \( \Delta AREC_{i,t} \): change in benefits of (X) company in (X) year
- \( PP_{i,t} \): long-term assets of (X) company in (X) year

4. Model of the Study:

To examine the relationship between reinsurance operations and earnings management in Jordanian insurance companies, the following form of (Cardoso, Martinez and Teixeira, 2014) will be used after modifying it to suit the study variables:

\[ DA_{i,t} = \alpha + \beta_1 R_{i,t} + e_{i,t} \]

Where:
- \( DA_{i,t} \): optional benefits of (X) company in (X) year
- \( R_{i,t} \): reinsurance operations of (X) company in (X) year

Analyzing Study Data and Testing Hypotheses

• Descriptive Statistics of the Study Variables:

<table>
<thead>
<tr>
<th>Variable</th>
<th>(N)</th>
<th>(Minimum)</th>
<th>(Mean)</th>
<th>(Maximum)</th>
<th>(Std. Deviation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional benefits</td>
<td>408</td>
<td>.00148</td>
<td>.1156743</td>
<td>.67214</td>
<td>.11731896</td>
</tr>
<tr>
<td>Reinsurance operations</td>
<td>408</td>
<td>-.48272</td>
<td>-.0245179</td>
<td>.63278</td>
<td>.09221960</td>
</tr>
</tbody>
</table>

Table (1) shows the descriptive statistics of the study variables related to 16 insurance companies listed on the Amman Stock Exchange for the period (2014-2018). The table shows that the variable of the optional benefits, which represents the extent to which the net income deviates from the net flows from the reinsurance operations. On average, there are earnings management practices in the Jordanian insurance companies during the study period.

• Collinearity Diagnostic

To ensure that there is no linear interrelation problem, the Diagnostic Collinearity test was used by calculating the tolerance and VIF factor (Gujarati, 2009) indicated that if the value of (VIF) is greater than 10 and the value of tolerance is less than (0.05), then there is a linear interrelation problem in the data (Multicollinearity Problem). Table (2) shows that (VIF) is less than 10 and the value of (Tolerance) is greater than (0.05) and this means that there is no linear interrelation problem in the data.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinsurance operations</td>
<td>0.896</td>
<td>1.116</td>
</tr>
</tbody>
</table>
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Table (3) shows the Matrix of Pearson-Correlation between the dependent variable represented by the optional benefits as an indicator of earnings management practices in Jordanian insurance companies listed on the Amman Stock Exchange, and the independent variable represented by reinsurance operations.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinsurance operations</td>
<td>0.118**</td>
</tr>
</tbody>
</table>

Table (3) shows that there is a statistically positive correlation between the optional benefits in Jordanian insurance companies listed on the Amman Stock Exchange and both variables of reinsurance operations and earnings management.

Testing Hypotheses and Discussing Findings

To achieve the objective of the study (identifying the effect of reinsurance operations on the optional benefits as an indicator of earnings management practices in Jordanian insurance companies listed on the Amman Stock Exchange), and to test the hypothesis of the study, the OLS Regression model was used as shown in Table (4).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Regression coefficient (Beta)</th>
<th>t value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinsurance operations</td>
<td>0.306</td>
<td>6.369</td>
<td>.000**</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The calculated F value (19.882) at the level of significance (0.000) indicates the significance of the model and its applicability, and it can be considered good for the process of estimating factors. (Adj-R2) indicates that the variables affecting this model explain (15.7%) of the dependent variable (optional benefits) as an indicator of earnings management practices in Jordanian insurance companies listed on the Amman Stock Exchange.

Table (4) also shows the results of the Durbin-Watson test, which explains the extent of the correlation between random errors in the model. At large, the problem of autocorrelation appears in the model if the adjacent views are interrelated, which will affect the validity of the model. (Gujarati, 2009) considered that if this value ranges between 1.5 and 2.5, then there is no Autocorrelation problem. Table (4) shows that the value of the Durbin-Watson test is 1.986, which indicates that there is no Autocorrelation problem in the regression in the model.

Hypothesis 1

Table (5) shows the results of the H1 test, which states that "there is no statistically significant effect of reinsurance operations on the earnings management in Jordanian insurance companies listed on the Amman Stock Exchange."

<table>
<thead>
<tr>
<th>Variable</th>
<th>Regression coefficient (Beta)</th>
<th>t value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinsurance Operations</td>
<td>0.306</td>
<td>6.369</td>
<td>.000**</td>
</tr>
</tbody>
</table>

Table (5) shows that the optional benefits, which are an indicator of earnings management practices in Jordanian insurance companies, are positively affected by reinsurance operations, at a significant level of 1%. This indicates that the optional benefits are high in companies that have flowed for reinsurance operations. In other words, there are high earnings management practices in companies that have flowed for reinsurance operations. The reason beyond this may be due to the conflict of interests between the related parties, or what is known as the agency problem that increases with the availability of reinsurance operations, which in turn leads to the emergence of earnings management practices. Accordingly, H1 was rejected and the alternative hypothesis "there is a statistically significant effect of reinsurance operations on earnings management in Jordanian insurance companies listed on the Amman Stock Exchange" was accepted.

Findings

- There is a statistically significant effect of reinsurance operations on earnings management in Jordanian insurance companies listed on the Amman Stock Exchange, since the optional benefits, which are an indicator of earnings management practices in the Jordanian insurance companies, are positively affected by
reinsurance operations, indicating that optional benefits are high in companies with high reinsurance operations.

- There are high earnings management practices in companies that have reinsurance operations. The reason beyond this may be due to the conflict of interests between the related parties, or what is known as the agency problem that increases with the availability of reinsurance operations, which in turn leads to the emergence of earnings management practices.

**Recommendations**

In light of the findings of the study, the following recommendations are provided:

- To pay more attention to reinsurance operations, as an indicator of the extent of earnings management practice in Jordanian insurance companies listed on the Amman Stock Exchange.
- Some factors, such as the form of reinsurance operations whether legal, mutual or facultative, should be taken into account as tools that affect earnings management in Jordanian insurance companies listed on the Amman Stock Exchange.

**References:**


[4] Clikeman. Pete., *Where auditors fear to tread: internal auditors should be proactive in educating companies on the perils of earnings management and in searching for signs of its use*, Internal Auditor, August (2003), 75-80


