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**Scientific Journal for Financial and Commercial Studies
and Research (SJFCSR)**

Faculty of Commerce – Damietta University

Vol.4, No.1, Part 1., January 2023

APA Citation:

Maait, M. A. M. (2023). Measuring the Technical and Financial Performance for Misr Insurance Company after Merge, *Scientific Journal for Financial and Commercial Studies and Research*, Faculty of Commerce, Damietta University, 4(1)1, 789-823.

Website: <https://cfdj.journals.ekb.eg/>

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Abstract

This study aims to assess the technical and financial performance of Misr Insurance Company after the merger of its property and casualty portfolio with both Al Sharq Insurance Company and the National Insurance Company as well as the inclusion of the reinsurance portfolio of the Egypt reinsurance Company. The Corporates P&C portfolios were merged on July 1, 2010, with their book values on June 30, 2007 to comply with the provisions of Law No. 118 of 2008, which required the separation of life and property insurance activities in Independent legal entities. The researcher set the time period from 2011 to 2020 to study and measure the technical and financial performance of Misr Insurance Company using data published in the annual book issued by the Financial regulatory Authority using factor analysis, multivariate analysis of variance, and multiple regression analysis analyse and measure the impact of different financial indicators representing the performance of company's insurance activity, volume of the business and its capital as independent variables on the rate of return on the company's assets as a dependent variable. The results showed that the merger of the portfolios of public business companies since 2010 has had a positive impact on the company's performance to increase the size of the company's assets and investments and the level of profitability and increase the capital base.

Key words: Misr Insurance Company, Measuring, Financial and Technical Performance, Property Insurance Portfolio and Financial Ratios Liabilities, Return on Assets.

Introduction

Insurance companies play an important role for both businesses and individuals as they indemnify them against financial losses and put them financially in the same positions prior to the occurrence of the loss. Thus, Insurance has great importance to protect the economy by absorbing risks and promoting financial stability. Insurance companies like banks are providing unique financial services to the growth and development of every economy. According to Christopher et al, (2007) Insurers provide economic and social benefits in the society such as prevention of losses, reduction in fear and increasing employment. Insurance companies participate in the increase of economic growth and development. Outreville, (1998) suggests that the insurance sector plays a significant role in a country's economic growth and offers financial protection to individuals or firms against monetary losses suffered from unforeseen circumstances. Lack of insurance coverage can leave individuals and families vulnerable to the uncertainties of everyday life and emergencies.

The Egyptian insurance market is considered one of the oldest markets in the Middle East and the Arab region. Despite its long history in the region and its great flexibility in recent years after the popular country uprising in January 2011, its contribution to the GDP still limited and not exceeding 1% (Daily News). Insurance companies are constantly seeking growth to improve its activities, improving its financial capabilities by attracting new segments to increase its insurance penetration and investments. Merge could help enterprises to increase their capabilities to grow faster, especially if they have untapped assets and rational management.

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For the Egyptian insurance sector there was an important merge between three big public insurance corporations in 2010, the p&c portfolios for Misr, Alsharq, and national insurance companies get merged in on insurance company “Misr Insurance”. First, it is necessary to give a brief historical background about MISR Insurance Company.

MISR Insurance Company was established on January 14, 1934, as fully owned by the Egyptian government for the purpose of providing insurance services and protection to various Egyptian economic projects at that time to support the developing plans owned by the state. The company has huge investment portfolio which enable it to contribute in numerous of economic projects to support the Egyptian economy. On the year 2007, the President of the Repub., issued a decree to establish The MISR Insurance Holding Company and on the year 2010, the Holding company adopted the merge of three state owned insurance companies that existing at that time (Miser Insurance Company, El- Sharq Insurance Company, and National Insurance Company) subject to the provision of law No. 203 of 1919 regulations, according to the public business sector law and its executive regulations. This merge resulted in establishing two specialized companies, MISR Insurance Company, which is specialized in property and liability insurance, and Misr Life Insurance Company which is specialized in life insurances activities. Thus, a giant insurance entity specialized in property and life insurance were established as two of the largest insurance companies in the Middle East.

Problem Statement

Due to the role model of Misr insurance company in protecting individuals, investors, and the national economy as hole. Moreover, its continuous improvement and growth in the insurance market in Egypt and MENA region. it is important to measure and analyze the company’s technical and financial performance after the merge to

assess the effect of the merging process on the company's technical and financial status.

The Research Objective:

This research aims at identifying the most effective factors that contributes to the company's financial and technical success during the last 10 years by:

- Evaluating the financial performance of Misr Insurance Company after the merge.
- Identifying the variables that affect the surplus, and the regression equation from which the surplus can be predicted.
- Measuring the most important indicators which may affecting the company's surplus.

Study hypotheses

- There is significant relationship between the independent variables and surplus as a dependent variable.
- All the independent variables have the same impact on surplus as a dependent variable.

Importance of the study

- Attention to an important and vital industry at the level of the individual, and the state in general should be given.
- Identify the most important variables that affect the surplus.
- Evaluating the financial performance of the insurance company contributes to:
 - Raising customers' confidence in the company's ability to fulfil its obligations, thus achieving a competitive advantage for it.

- Maintaining the strength of the company's financial position away from stumbling and identifying strengths and weakness in its performance.

Sample & Data

- The empirical data used in this study covers the fiscal years 2009/2010 to 2018/2019, based on the data published in the Statistical Yearbook of the Egyptian Insurance Market. For the Misr property and liability Insurance Company after the merging.

Literature review

- Several studies were conducted to investigate and explore variables of financial and technical performance of insurance companies. The review will focus on the most recent empirical researches especially in the emerging markets. Burca and Batrinca (2014) suggested that the financial performance of insurance companies can be analyzed at micro and macroeconomic level, being determined both by internal factors represented by specific characteristics of the company, and external factors regarding connected institutions and macroeconomic environment Identifying the factors that contribute to insurance companies' profitability is useful for investors, researchers, financial analysts and supervisory authorities.

Iswatia, &Anshoria (2007) stated that Performance reflects of the ability of an organization to gain and manage the resources in several ways to develop competitive advantage. There are two kinds of performance, financial performance and non-financial performance (Hansen and Mowen, 2005). Financial performance emphasizes on variables related directly to financial report. Company's performance is evaluated in three dimensions. The first dimension is company's productivity, or processing input into

output efficiently. The second is profitability dimension, or the level of which company's earning is bigger than its cost. The third dimension is market premium, or the level of which company's market value is exceeding its book value (Walker, 2001).

(Farhan & Abu Zaid, 2017) was interested in studying the margining of solvency of insurance companies in the Saudi market, through a quantitative model to measure the solvency of companies to predict the financial difficulties that they may face. The researchers classified the companies under study according to their financial performance to bad, acceptable, good, and very good. And that there are statistically significant differences between the level of solvency of cooperative insurance companies in the Saudi market.

(Mishaal, 2017) to measure the effectiveness of merging insurance companies on the Unfavorable fluctuations in underwriting results through determining the impact of the merging on insurance companies in terms of verse fluctuations in capacity and portfolio risks by designing a Jack Knife regression model with probability distributions and measuring deviations in the risks of the insurance portfolio. Their conclusion stated that (there was an effect of the merging on the retention rate and the density of insurance. However, there was no effect on the rate of change in the subscription and the technical loss rate. More over there is an impact of the merging on the risks of the insurance portfolio of the company. The study recommended the evaluation of merging operations at regular intervals, taking a strategy for dealing between insurance companies and banks and providing determinants of bank insurance growth in Egypt.

(Ismail, 2012) identified the most important indicators of solvency affecting the development of the profitability of insurance companies and supporting decision-making related to the merging of cooperative insurance companies operating in Saudi Arabia and meanwhile estimating the extent of success Integration process. The study found that Retention

rate, Liquidity, and the rate of change in shareholders' equity are most important financial indicators affecting the success of the merging process for the profitable insurance company. Moreover, there are direct effects of the surplus or deficit of the insurance activity, on the profit or loss per share of the new merged insurance company. However, the indicator (net written premiums / total shareholders' equity) for the group of profitable companies has no effect on the success or failure of the merging process between any two insurance companies under study. The researcher recommended the need to develop the volume of underwriting in non-compulsory insurance branches, especially those that enjoy a relatively low rate of losses, as this will have a positive impact on strengthening the financial positions of insurance companies in the market.

Sahar's (2011) aimed to evaluate the decision of merging insurance companies into the public sector on the rates of returns on investments and net income, and to predict the performance of the Egyptian insurance market in achieving an appropriate return. To meet the obligations towards policyholders and stakeholders. The researcher concluded that the presence of a negative impact of the merging of public sector companies on the rates of investment returns allocated to the rights of policyholders in the public sector. Also, the negative impact on the rates of return on free investments and on the rates of total returns public sector investments.

(Al-Sibai, (2000) aimed to show the impact of merging insurance companies on the technical aspects of insurance in terms of pricing level, risk value and retention limit by comparing results before and after the merging using the central moments measures in the fire insurance branch of the companies under study in the State of Kuwait. The researcher found that; the merging of insurance companies is a strategic option to face the forces of competition in light of globalization and sector liberalization Insurance. Merging leads to an increase in capital, a multiplicity and diversity of experiences and competencies, an increase in the ability to survive, challenge and competition, which contributes to improving the

conditions of companies the merging. The merging contributes to improving the average loss, and reducing insurance rates, especially the risk premium.

Gouda, (2008) aimed to test the impact of merging and acquisition on the financial performance of Egyptian insurance companies through measuring the change in the insurance company's financial performance. The study found positive relationship between the company's strength in influencing the market and its financial performance and no impact of the merging on the financial performance of the new company. He recommended that rationalizing production and general expenses so that the cost of insurance can be reduced. and rationalizing reinsurance policies by selecting risks.

Gouda, (2006) determined the factors that affecting capital and capital on the basis of risk and conducting a comparative study of the factors related to the activity of insurance companies by studying the risks that may expose the company to financial shocks, including underwriting losses, insufficient provisions. Investments collapse non-response of reinsurers. doubtful debts, the value of money declines. The study concluded that the margin of financial ease used in the Egyptian market to measure financial strength has become less than perform this function. The capital that is sufficient to meet the risks that companies are exposed to must be calculated so that the company can ensure the financial strength of the company.

(Wassef, 2001) dealt with the most important financial indicators to assess the financial performance of Egyptian insurance companies, to ensure the safety of financial centers, through the study and analysis of indicators of the American early warning system to measure solvency and the systems developed for it, such as risk capital, the financial analysis control system, and the financial indicators that The American Standard & Poor's performance appraisal is based on it. The researcher relied on the regression model in evaluating the financial performance of the companies under study.

Brokett et. al., (2004) focused on the ability of insurance companies to fulfill their obligations towards policyholders and shareholders, as well as the return on investment due to the importance of this indicator to the company's investors. It has great financial confidence, and it was also interested in examining and analyzing data extracted from insurance companies in order to measure the effectiveness of these companies, and to measure their ability to fulfill their obligations and return on investment as outcomes of the analysis process. Examination of the effectiveness evaluation of companies and their studies to show their impact on companies and their ranking in the market. This examination was conducted separately for each company. It is noted in this study that it relied on actual data extracted from the accounts of insurance companies to evaluate the performance of American companies. Through three different aspects: performance effectiveness, ability to meet commitments, and return on investment. Suleiman's study (2006) focused on evaluating the financial performance of general insurance companies, applying to the Jordanian insurance market, and the researcher used evaluation indicators related to liquidity, activity profitability, profitability Investments, and technical provisions through the cluster analysis method, and companies were classified into strong and poorly performing companies, based on the financial indicators used. While the study of (Hussein, 2006) was concerned with evaluating the performance of the Egyptian general insurance companies, through financial indicators, with the aim of comparing the average performance evaluation ratios between companies. The researcher tested the differences between the average ratios of each company with the total companies, and the extent of the relationship between them. Also, the study of (Arafa, 2006) focused on evaluating the performance of direct insurance companies for general insurance in the Egyptian market, through the method of cluster analysis, and the use of financial ratios that are concerned with measuring liquidity, activity profitability, investment profitability, and technical provisions. The companies were divided into three groups: strong performance companies, medium performance companies, and poor performance companies. The study of (Chang,2006) showed that insurance companies depend in their

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performance on fulfilling their obligations and continuous growth, so 20 insurance companies were selected in Taiwan, and 19 financial ratios were applied to them within five indicators to evaluate the performance of insurance companies, the most important of which are capital, profitability, solvency, and management efficiency, the study found that the ability of the two indicators of return on assets and the impact of profitability, in addition to indicators of operating performance, to indicate the continuous additional performance of insurance companies that are important in the short term during the time period. While the study of (Nick Palmer, 2007) explained the most important financial indicators affecting the evaluation of the performance of companies. The insurance under study, as it relied on the study and analysis of the financial statements of 86 insurance companies in developed economic countries, the United States of America, Europe and Australia, during the period from 1994 to 2004, by studying and analyzing the correlation and regression between the rate of return to shareholders' equity, as a dependent variable and 17 independent variables, which are indicators of financial performance analysis of the insurance companies under study, and the study found To the fact that sustainable revenue growth is the best method for preserving rights, and the most important means for the insurance company to achieve the highest level of financial performance, is to identify its most important clients, increase the volume of dealings with them, and increase retention rates related to reinsurance operations. Companies resort to merging to increase the size of their revenue.

The Proposed Conceptual Model

We propose the following multiple regression model to identify a set of independent predictors. The equation of the multiple linear regression line takes the following form:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \dots + \beta_k X_{ki} + \varepsilon_i$$

$k = 1, 2, 3, \dots, 12, i = 1, 2, 3, 10.$

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where ε_i represents the predicted random error due to the fact that the model does not include all the independent variables affecting the dependent variable. Which is assumed normally distributed with mean zero, and constant variance σ^2 for all $i = 1, 2, 3, \dots, 10$. Furthermore, we assume that ε_i and ε_j are uncorrelated for all $i \neq j$.

β_0 Represents the regression constant, (the intercept).

β_k = regression slope associated with the independent variable x_i . Which is the rate of change of Y_i for a unit change in x_{ki} for all $k = 1, 2, 3, \dots, 12$.

It is clear from previous studies to assess the financial performance of insurance companies, property and liability insurance, that the assessment of financial performance depends on many indicators, and each indicator has its importance in evaluating performance, and measuring the solvency margin, and the following is an explanation of the indicators from which the performance of the insurance company can be evaluated:

Dependent variable (Y) “Indicator of the surplus rate over assets”

It shows the efficiency of assets in generating surplus, regardless of the source of the surplus, whether from insurance activity or investments, and according to what was mentioned in previous literary studies and what supervisory bodies are committed to.

Independent variables (x's)

Profitability variables

1-The investment return (x2)

It is one of the important indicators that show the company's profitability from its investments, as it gives a good indicator of the quality of the investment portfolio, and the acceptable range is greater than 6% (according to the application on the market American), and in other references from 4.5% to 10%, and it is measured from the following relationship.

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Investment return = net income from investments / average value of invested assets for the current and previous year

2- Technical loss rate

It represents one of the criteria for evaluating the results of the subscription and one of the important indicators of the results of the company's technical operations, and from it it is possible to determine the type of risks covered (Al-Khouli, 2010). The technical loss rate ranges between 28% to 60% and is considered internationally acceptable even if it reaches 70% or 80% and is used as an indicator of the fairness of prices. Financial shocks affect its financial solvency, and from this comes its importance in setting goals and formulating policies for insurance activities, production, underwriting, pricing, reinsurance and the formation of technical provisions (Hamouda, 1998).

Loss rate = Deductible compensation / premium earned for the same year

Liquidity and credit risk variables

3- Liquidity ratio (x6)

It shows the extent of the company's response to any financial claims, the extent to which the liquid assets cover the accrued obligations, and it is a general indicator of the extent to which it is possible to settle the obligations of policyholders in the event of liquidation. and range Acceptable is less than 105%.
Liquidity Index = Liabilities / Value of Liquid Assets

4- The premium collection (x3)

It gives an indication to the extent to which the financial solvency of the insurance company depends on an asset that may not be achieved in the event of liquidation. It also differentiates between companies that face financial difficulties from those that have financial stability. The acceptable range for this percentage is less than 40% under collection and agent balances/excess.

Capitalization, capacity and solvency variables

5- The shareholders' equity to total assets

This is an indicator that confirms confidence in the company by reinsurers. The standard rate accepted is 10% as a minimum.

6-Gross Written Premiums to Shareholders equity

This indicator shows whether the company is operating at full capacity or not, regardless of the soundness of its financial position. 400% at least.

7-Net written premiums to shareholders' equity

Oversight of insurance, the typical rate is greater than 2%. Surplus rate = Surplus/total assets It is used as an indicator to measure the risks that the company is exposed to, which are represented in the unfavorable fluctuations in the results of the insurance portfolio and the extent of the company's ability to face those expected fluctuations (Mishal, 2017).

9- Net written premiums/surplus

An indicator of the risks accepted in the insurance portfolio, assuming that the premium is proportional to the degree of risk, which is the accepted basis in the insurance industry. The net written premiums represent the basic indicator for the risks

The insurance portfolio and reflects the company's ability to face unfavorable fluctuations in the results of the risks covered, the higher this ratio, the higher the risk to the capital and the acceptable range from 220% to 300%.

10 - Change in surplus

This indicator shows the improvement or imbalance in the company's financial position during the year, and the acceptable range is according to what is known from -10 to 50%. The business from year to year, and the stability of the company's surplus, and it is calculated as follows: Change in the surplus,

surplus for the current year - surplus for the previous year surplus for the previous year Where surplus = surplus + expenses for obtaining deferred insurance operations. Expenses of obtaining deferred insurance operations (general and administrative expenses + commissions and production costs) X Provision for unexplained risks / net written premiums

11- Change in subscription

This indicator shows the percentage change in the volume of net written premiums for a year compared to the previous year, and shows the extent of expansion or contraction in the volume of risks covered by the company, and the acceptable range ranges between -33%: 33%, as the increase in net written premiums requires an increase in Capital and reserves (Hamouda, 1998), and the failure of the underwriting process and inappropriate investments le to an imbalance in the company's position and a failure to continue with high efficiency, and the company can depend on the size of its assets in the underwriting, investment and reinsurance policy (Samson, 2014). It is calculated as follows: Change in subscription = net subscription premiums for the current year - net subscription premiums for the previous year Net subscription premiums for the previous year

12- Absorptive capacity employed

It shows the absorptive capacity utilized from the theoretical absorptive capacity, and it is measured by the following equation Capacity utilized = net premiums/3 shareholders' equity

13- Total Expenditure Rate

The total expenses rate is one of the important indicators of the financial efficiency of the company and its ability to provide its products at the lowest possible cost, and the acceptable limit should not be more than 30%. Total Expense Rate = Total Expenses/Written Premium, for the same year.

The researcher can calculate the previous indicators as follows:

Table 1: Evolution of surplus rates, shareholders' equity and total written premiums during the study period.

year	Surplus 1	Total ass 2	Surplus r 1/2	Shareholders Equity 3	Shareholders Equity rate 2/3	Total Written Premiums 4	Total Written premiums/ Shareholders' Equity 4/3
10/2009	248981	22715736	0.011	3486332	0.153	3402661	0.976
11/2010	232507	13499170	0.017	3052671	0.226	3538232	1.159
12/2011	522822	13658601	0.038	3637650	0.266	3701390	1.018
13/2012	550723	14335306	0.038	3475408	0.242	4340682	1.249
14/2013	651290	15992625	0.041	4620297	0.289	4628543	1.002
15/2014	880548	16520901	0.053	4445424	0.269	4830724	1.087
16/2015	1008434	19318786	0.052	4504724	0.233	5177889	1.149
17/2016	1601367	32254200	0.050	15805180	0.490	7066495	0.447
18/2017	1903840	36059499	0.053	18906531	0.524	8557116	0.453
19/2018	2212971	33530578	0.066	16285227	0.486	8990005	0.552
Mean	981348.3	21788540	0.042	7822044	0.318	4559472.6	0.909
Standard Dev	660677.7	8424524	0.016	6073033	0.124	1477962.6	0.290
Coefficient of Variation	0.673	0.3836	0.38	0.776	0.39	0.324	0.319

Source: prepared by the researcher based on the data contained in the statistical yearbook.

It is evident from the previous table:

- The average ratio of surplus to total assets was 4.2%, from which the company achieves the acceptable range the surplus to total assets index is greater than 2%, and this reflects the soundness of the company's financial policy and confirms the soundness of its financial position, and the efficiency of assets in generating surplus.

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- The average ratio of shareholders' equity to total assets reached 31.8%, from which the company achieved the acceptable range of the shareholders' equity to total assets index which is greater than 10%, in accordance with the accepted standards and in accordance with the commitment of the General Authority for Insurance Supervision, and this reflects the efficiency and ability of the company to achieve A balance between shareholders' equity and total assets, and this is an indicator that confirms the confidence of the repeaters Company insurance.
- The average rate of development of total written premiums to shareholders' equity is 91%, and from it the company it does not achieve the acceptable range for this indicator, which means that the company is not operating at full capacity, as the acceptable range is 400% as a minimum.

Table 2: Evolution of change rates in net written premiums to shareholders' equity, liquidity and energy rates Exploited capacity

	Net written premiums 1	Change in subscription	Shareholders' equity 2	Ratio (%) 2/1	Energy rate exploited capacity 2*3/1	Shareholders' equity rate of change %	Total liabilities 3	Liquid assets 4	Liquidity 4/3
10/2009	1587349	-----	3486332	0.455	0.152	-----	19229404	120116	160.09
11/2010	1997648	0.2584	3053671	0.654	0.218	(12.4)	10445499	45267	
12/2011	1906486	(0.0456)	3637650	0.524	0.1747	19.12	10020951	40888	245.09
13/2012	1963772	0.030	3475408	0.565	0.188	(4.46)	10859898	107605	100.92
14/2013	2342435	0.1928	4620297	0.507	0.1689	32.94	11372328	229969	49.45
15/2014	2788638	0.1905	4445424	0.627	0.209	(3.78)	12075477	239969	50.32
16/2015	3180749	0.1406	4504724	0.706	0.235	1.33	12966125	247996	52.28
17/2016	4482227	0.4092	15805180	0.284	0.0945	250.85	12966125	339175	48.5
18/2017	5219199	0.1644	18906531	0.276	0.092	19.62	16449019	277853	61.73
19/2018	5743804	0.101	16285227	0.353	0.1176	(13.86)	17152968	441663	39.05
Mean	3121231	0.1601	7822044	0.495	0.165	32.15	17245351	209050	103.82
Standard Deviation	1424181	0.1233	6073033	0.144	0.048	78.77	13781702	123283.9	75.33
Coefficient of Variation	0.4563	0.77	0.776	0.291	0.291	245	3214751	0.5897	0.726

Source: Prepared by the researcher based on the data contained in the statistical yearbook, the General Authority for Insurance Supervision.

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It is evident from the previous table that:

- The average liquidity index (the ratio of total liabilities to liquid assets) reached 103.8 percent, which means that the company meets the liquidity criterion, which is the rate not more than 105%, which shows the equity of the company's liquid assets to pay its obligations.
- The average risk of the insurance portfolio was 49.5%, which reflects the risks that the company may be exposed to in the unfavorable fluctuations of the results of the insurance portfolio, and the extent of the company's ability to face them, which means the need to review the company's underwriting policy in selecting the risks of the insurance portfolio.
- The average exploited capacity reached 16.5% of the theoretical capacity available to the company from the market, which means that the company is not operating at its full capacity, and that it is unable to absorb the untapped demand in the market, and this is what was reached through the index of total written premiums to shareholders' equity, This means that the marketing policy must be considered and the introduction of new innovative products that will enable the company to expand its underwriting activity and work to better grow its market share, and this ensures the relative decrease in the company's market share during the past five years

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Table 3: Evolution of investment return rates, loss rates and retention rates

	Total investment	Average value of assets invested for current & previous year (1)	Net return on investments (2)	Return on investment % (1/2)	Loss ratio %	Retention rate %
10/2009	20780916	-----	2098984	-----	116.6	54.6
11/2010	11992248	16386582	982684	6.00	98.6	56.5
12/2011	12186477	12089362.5	1068329	8.84	79.8	51.5
13/2012	12767852	12477164.5	1013531	8.12	79.7	45.3
14/2013	13811397	13289624.5	1017393	7.66	57.6	50.6
15/2014	14110050	13960723.5	1078865	7.73	59	57.7
16/2015	16706097	15408073.5	1058063	6.87	44.2	61.4
17/2016	29410614	23058355.5	1644832	7.13	41.6	63.4
18/2017	32792956	31101785	2483853	7.99	61.2	61
19/2018	29748977	31270966.5	2470703	7.90	61.5	63.9
		Mean	1491724	7.582	69.98	56.59
		Standard Deviation	598789.2	0.7733	22.53	6.12
		Coefficient of Variation	0.4014	0.102	0.32	0.108

Source: The researcher counter based on the data contained in the statistical yearbook, the General Authority for Insurance Supervision.

It is evident from the previous table that:

- The average return on investment reached 7.6%, which is within the acceptable range, as previously explained, and the degree of homogeneity in the rates of return on investment reached 90%, which means that there is a clear stability in the rates. The return on investment in the company confirms the quality of its investment portfolio.
- The annual loss rate ranged between 41.6% and 116.6% with an average of 69.98% and a coefficient of variation 32.2%, which means that there is a fluctuation in the annual loss rates, and this of course may expose the company to unexpected financial shocks due to the relative instability of the rates of losses, although the average is within the recognized limits (70%), and the relative

decrease in the losses rates for the four years is noted The latter, which is a positive sign for the company after the merging.

- The retention rate ranged between 45.3% and 63.9% with an average of 56.59% and a degree of homogeneity of 89.2%, which means that there is a relative stability of the annual retention rates, and that the average retention rate is within the accepted limit, which is greater than 50%, and this is a positive indicator, although the researcher He believes that the retention rate can be increased more than this, especially after the merging, and of course the increase in capital and reserves, and the availability of financial solvency, which contributes to increasing the company's insurance operations and its retention rate, especially after the merging, which means that there is sufficient technical expertise in the company.

Table 4: Evolution of the rates of change in the surplus

	Surplus	General & managerial expenditure	Commission & production expenses	Provision for current risks	Net written premiums	Costs of deferred insurance operations	Adjusted surplus	Change in surplus
10/2009	248981	293136	531630	966788	1587349	502330.5	751311.5	-----
11/2010	232507	381243	519343	1044735	1997648	470990.7	703497.7	(0.063)
12/2011	522822	327477	590162	1155973	1906486	556398.5	1079220	0.534
13/2012	550723	417056	686495	1273252	1963772	715510	1266233	0.1733
14/2013	651290	485124	763116	1275704	2342435	679798.9	1331089	0.0512
15/2014	880548	516544	862959	1423238	2788638	704057.4	1584605	0.1904
16/2015	1008434	586343	1035413	1625389	3180749	828730.7	1837165	0.1594
17/2016	1601367	652201	1420836	2198317	4482227	1016725	2618092	0.4251
18/2017	1903840	850345	1646778	2481326	5219199	1187189	3091029	0.1806
19/2018	2212971	776781	1697830	2843782	5743804	1225191	3438162	0.1123
Mean								0.1959
Standard Deviation								0.1713
Coefficient of Variation								0.874

Source: Prepared by the researcher based on the data contained in the statistical yearbook, the General Authority for Insurance Supervision.

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It is clear from the table that the average change in the surplus is 19.6%, which is within the acceptable range, and therefore there is an improvement in the company's financial position, the acceptable range, according to what is known, from -10% to 50%, The higher the positive ratio indicates the significant improvement in the financial position of the company during the year, and it also shows the business from year to year, and the stability of the surplus, but by looking at the coefficient of variation, we note that there is a clear heterogeneity in the change in the surplus, where the coefficient of variation reached 87.4% growth in size.

5- Evolution of the achievement rate

Table 5: Shows the evolution of achievement rates

	Surplus 1	Premium collection & clients' balances 2	Collection rate 1/2	General expenditures %	Commissions & production expenditures %	Total expenditure rate %
10/2009	248981	557036	2.23726	8.6	%	Total
11/2010	232507	466027	2.00436	10.8	15.6	24.2
12/2011	522822	500115	0.95657	8.8	14.7	25.5
13/2012	550723	548480	0.99593	9.6	15.9	24.7
14/2013	651290	796791	1.2234	10.5	15.8	25.4
15/2014	880548	904437	1.02713	10.7	16.5	27
16/2015	1008434	1061864	1.052983	11.3	17.9	28.6
17/2016	1601367	1177460	0.735284	9.2	20	31.3
18/2017	1903840	1107564	0.581753	9.9	20.1	29.3
19/2018	2212971	1244019	0.562149	8.6	19.2	29.1
Mean			1.137682	9.8	18.9	27.5
Standard Deviation			0.533	0.9402	17.46	27.26
Coefficient of Variation			0.4685	0.0959	1.8948	2.316

Statistical Analysis

Table (6): Descriptive Statistics for the independent variables

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12
Mean	0.273	7.582	1.138	0.700	0.566	1.038	0.495	0.165	0.318	0.160	0.909	0.186
N	10	10	10	10	10	10	10	10	10	10	10	10
Std. Deviation	0.023	0.773	0.562	0.237	0.061	0.794	0.152	0.051	0.131	0.123	0.306	0.174

X7	Pearson Correlation	-.305-	-.064-	-.056-	.437	.177	-.386-	.307	1	1.000**	-.808-**	.144	.927**	.555
	Sig. (2-tailed)	.391	.860	.878	.206	.626	.271	.388		.000	.005	.691	.000	.095
	N	10	10	10	10	10	10	10	10	10	10	10	10	10
X8	Pearson Correlation	-.307-	-.066-	-.057-	.440	.179	-.386-	.309	1.000**	1	-.810-**	.143	.928**	.555
	Sig. (2-tailed)	.388	.856	.875	.204	.620	.271	.384	.000		.005	.694	.000	.096
	N	10	10	10	10	10	10	10	10	10	10	10	10	10
X9	Pearson Correlation	.710*	.479	.346	-.771-**	-.592-	.620	-.518-	-.808-**	-.810-**	1	-.176-	-.916-**	-.145-
	Sig. (2-tailed)	.022	.161	.327	.009	.071	.056	.125	.005	.005		.628	.000	.690
	N	10	10	10	10	10	10	10	10	10	10	10	10	10
X10	Pearson Correlation	.218	.469	-.691-*	-.058-	-.321-	.129	-.570-	.144	.143	-.176-	1	.107	-.178-
	Sig. (2-tailed)	.545	.171	.027	.873	.366	.721	.085	.691	.694	.628		.769	.624
	N	10	10	10	10	10	10	10	10	10	10	10	10	10
X11	Pearson Correlation	-.495-	-.351-	-.123-	.540	.390	-.684-*	.416	.927**	.928**	-.916-**	.107	1	.299
	Sig. (2-tailed)	.146	.319	.735	.107	.265	.029	.232	.000	.000	.000	.769		.402
	N	10	10	10	10	10	10	10	10	10	10	10	10	10
X12	Pearson Correlation	-.046-	.330	.579	.142	-.201-	.225	.214	.555	.555	-.145-	-.178-	.299	1
	Sig. (2-tailed)	.900	.352	.080	.695	.577	.532	.552	.095	.096	.690	.624	.402	
	N	10	10	10	10	10	10	10	10	10	10	10	10	10
* . Correlation is significant at the 0.05 level (2-tailed).														
** . Correlation is significant at the 0.01 level (2-tailed).														

Examining the correlation matrix revealed that, there are high probability of multicollinearity problem between independent variables(X2, X1), (X7, X11), (X8, X11), (X7, X8, X9, and X11). To confirm that we run the regression model and check the variance inflation factor VIF.

Table (8) Independent Variables:

Independent Variables	VIF
1 (Constant)	
X	29.057
X2	127.020
X3	44.021
X4	18.100
X5	30.685
X6	7.815
X8	64.507
X10	8.158
X12	214.485

As displayed in Table (8), strong evidence of multicollinearity exists between the set of independent variables exceeds the 5. To reduce the multicollinearity between independent variables we first run the exploratory factor analysis technique with varimax rotation to produce orthogonal factors which are uncorrelated. Hence, we express each factor as a linear combination of the original variables weighted by their factor loadings.

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Table (9) Factor Analysis to Remove Redundancy in Data

Factor Loadings of the surrogated latent Factors

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	1	5.504	45.867	45.867	5.504	45.867	45.867	4.117	34.311
2	2.737	22.808	68.675	2.737	22.808	68.675	4.081	34.010	68.321
3	2.228	18.567	87.242	2.228	18.567	87.242	2.271	18.921	87.242
4	.953	7.938	95.180						
5	.251	2.095	97.276						
6	.198	1.650	98.925						
7	.078	.652	99.578						
8	.047	.391	99.969						
9	.004	.031	100.000						
10	1.179E-16	9.827E-16	100.000						
11	-2.099E-16	-1.749E-15	100.000						
12	-7.650E-16	-6.375E-15	100.000						

Extraction Method: Principal Component Analysis.

The factor analysis with varimax rotation technique was able to reduce the 12 original variables into only three latent factors (constructs). The three new surrogated variables are able to explain 87.42% of the total variation that shows an excellent validity of the measurements. Then we represent each factor as linear combination of its factor loadings and the variables in the constructs Namely, Solvency, Loadings, and Income index.

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Table (10): The new Surrogated Variables

Rotated Component Matrix ^a			
	Component		
	Solvency	Loadings	Income Index
X1		.969	
X2			.947
X3		-.687-	
X4		-.937-	
X5		.659	
X6		-.762-	
X7	.983		
X8	.983		
X9	-.775-		
X10			-.813-
X11	.886		
X12			.632
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 6 iterations.			

Descriptive analysis presented in Table (11), shows the statistical summary measures of the new variables in terms of the sample size n, the minimum, the maximum, the average, and the standard deviation. Next, we build up a regression model.

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Table (11): Descriptive Statistics

	n	Minimu m	Maximu m	Mean	Std. Deviation
Solvency	10	.32	.59	.4689	.10317
Loadings	10	.49	1.17	.7139	.26173
Income Index	10	2.45	3.63	3.1055	.30895
Valid N (listwise)	10				

The Univariate Analysis of Variance:

We ran the univariate analysis of variance test to test the significance of the new variables and their possible interactions. The results in Table (12), revealed that the only significant factor is the loadings (p -value < 0.05). The $R^2 = 84.9\%$, shows an efficient model that explains the relationship between loadings and the dependent variable Y (see Table(13)) for details.

Table (12) Tests of Between-Subjects Effects

Dependent Variable: Y

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.002 ^a	3	.001	11.219	.007
Intercept	.000	1	.000	4.976	.067
Solvency	5.027E-8	1	5.027E-8	.001	.979
Loadings	.002	1	.002	28.813	.002
Incomeindex	3.171E-5	1	3.171E-5	.484	.513
Error	.000	6	6.558E-5		
Total	.020	10			
Corrected Total	.003	9			

a. R Squared = .849 (Adjusted R Squared = .773)

Regression Model illustrates the coefficient of determination exceeds 84%, which indicates highly efficient model.

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Table (13): The Efficiency of the regression Model R²

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.921 ^a	.849	.773	.0080983

a. Predictors: (Constant), Factor3, Factor2, Factor1

The analysis of variance Table (14), presents the Analysis of Variance Test (ANOVA), for testing the adequacy of the model. The results of the F-test show an adequate model (p-value < 0.05).

Table (14) ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.002	3	.001	11.219	.007 ^b
	Residual	.000	6	.000		
	Total	.003	9			

a. Dependent Variable: Y

b. Predictors: (Constant), Solvency, Loadings, Income Index

As illustrated in Table (15), first no indication of multicollinearity between independent variables (VIF < 5). The only significant variable is loadings, which sows -91.4% effects on the dependent variable Y.

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Regression Coefficient Table (15):

Model		Coefficients ^a					Collinearity Statistics	
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	.066	.029		2.231	.067		
	Solvency	-.001-	.028	-.005-	-.028-	.979	.867	1.154
	Loadings	-.059-	.011	-.914-	-5.368-	.002	.870	1.150
	Income index	.006	.009	.111	.695	.513	.996	1.004

a. Dependent Variable: Y

Concluding Remarks

The objective of this part is to highlight and focus on the research major contributions and findings.

The financial performance of the company after merge showed a great development in the size of the company's assets, The Company's financial statement reported an amount of 13.5 billion pound in the fiscal year ending 30/6/2011. While, the financial statement of the fiscal year ending 30/6/2021, reported total assets 28.3 billion pounds, which clearly illustrates a significant growth rate of 138% of the size of the company. Also, The Company is distinguished by diversification of its investment portfolio throughout its history. The company diversify its investment portfolio in different investments channels including, governmental securities instruments and banks listed in the central bank of Egypt, as well as its contribution to many sectors such as housing, contracting, financial sector, tourism, real estate sector, cement industry, communication, food sectors and others by amount of 33.2 billion pound in the fiscal year ending 30/6/2021. However, the company had been invested 12.5 billion pounds in 2011 before the merge with a growth rate reached 177% over the last 10 years. For the capital base, the company has developed significantly, and this is reflected by the continuous increase to reach the amount of 5 billion pound in the fiscal year

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30/6/2021 compared to 1.65 billion pound in the fiscal year 2011 with a growth rate of 203%. In addition, the company has budgeted the state with its profit shares. In respect of premium, MISR Insurance company has achieved high growth rates in the volumes of total written premiums reaching to 9.3 billion in the fiscal year ending 30/6/2021, comparing to 3.5 billion pounds in the fiscal year ending 30/6/2011, with growth rate 1.71.1%. After the merge, the company has fulfilled its obligations towards policy holders the by paying claims reached 3.6 billion pound in the fiscal year ending 30/6/2021 compared to an amount of 2.1 billion pound in the fiscal year ending 30/6/2011, with growth rate reaching 68.1%, which reflect the important role the company plaid in protecting the national economy, individual's activities, and investors. The surplus of the insurance and investment activities has achieved as a growth rate of 463.1%, which is considered a remarkable improvement in its profitability during the last 10 years. The insurance activity during the fiscal year ending 30/6/2021 amounted to 1.5 billion pounds, compared to 271 million pound in the fiscal year ending 30/6/2011, with growth rate 463.1%. The company has made net profit amounted to 2.3 billion pounds in the fiscal year ending 30/6/2021 compared to 232 million pounds in the fiscal year ending 30/6/2011 with a growth rate 870.2%.

Comparing with property and liability insurance companies in the Egyptian market, MISR insurance company owns 62.5% of the total market assets, 72.5% of the total investments, 41% of the total premiums of property and liability. The company is considered one of the leading insurance companies in the Middle East and Arab market with an experience extends to 86 years. The company has awarded a credit rating of BBB with B++ financial strength with a stable future look to the rating issued by AM Best for it performance during the period 2015-2021. The company also achieved AA+(EGY) rating from Fitch which reflects the company's strength of financial position.

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قياس الأداء المالي والفني لشركة مصر للتأمين بعد أعمال الدمج

د. محمد أحمد محمد معيط

المستخلص

تهدف هذه الدراسة إلي قياس الأداء الفني والمالي لشركة مصر للتأمين بعد اندماج محفظة أعمال تأمينات الممتلكات والمسئوليات لكلاً من شركة الشرق للتأمين وشركة التأمين الأهلية وكذا ضم محفظة إعادة التأمين للشركة المصرية لإعادة التأمين بقيمتها الدفترية في ٢٠٠٧/٦/٣٠ إلي محفظة أعمال تأمينات الممتلكات والمسئوليات لشركة مصر للتأمين، إعتباراً من تاريخ ٢٠١٠/٧/١ توفيقاً لأوضاع تلك الشركات طبقاً لأحكام القانون رقم ١١٨ لسنة ٢٠٠٨ الذي أوجب الفصل بين أنشطة تأمينات الحياة والممتلكات في شخصيات اعتبارية مستقلة. وقد حدد الباحث الفترة الزمنية من ٢٠١١ حتي ٢٠٢٠ لدراسة وقياس الأداء الفني والمالي لشركة مصر للتأمين وذلك باستخدام البيانات المنشورة بالكتاب السنوي الصادر عن الهيئة العامة للرقابة المالية وقد تم استخدام التحليل العملي وتحليل التباين عديد الابعاد والانحدار المتعدد وتحليل تأثير العديد من المؤشرات المالية والتي تقيس أداء نشاط التأمين وكفاءة الأصول والقاعدة الرأسمالية كمتغيرات مستقلة وتحديد مدي تأثيرها علي معدل العائد علي أصول الشركة كمتغير تابع وتم إجراء التحليل الإحصائي لها باستخدام البرامج الإحصائية ، حيث أظهرت النتائج إلي أن أعمال دمج محافظ شركات قطاع الأعمال العام منذ عام ٢٠١٠ حققت تأثيراً إيجابياً علي تحقيق الشركة لزيادة حجم أصول واستثمارات الشركة ومستوي الربحية وزيادة القاعدة الرأسمالية.

الكلمات الافتتاحية: شركة مصر للتأمين، قياس الأداء المالي والفني، محفظة تأمينات الممتلكات والمسئوليات النسب المالية، معدل العائد على الأصول.