

# Corporate Profitability Impact on Unemployment Rate: Jordan as Case Study

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## Abstract

This study aimed to find out the corporate profitability impact on unemployment. It is a case study of the Jordanian economy. The return on assets in Jordanian public shareholding companies was considered an indicator of corporate profitability. While the unemployment rate was considered as an indicator of unemployment. The result showed that all the Jordanian economic sectors recorded growth profitability throughout the years of study. Except the services sector in 2020. As for unemployment, throughout the years of study, the unemployment rate didn't decrease below 11%, which is a very high rate. The study also found that corporate profitability has a statistically significant negative impact on the unemployment rate in Jordan. It means this increase in corporate profitability by 1% leads to a decrease in the unemployment rate by 1.1%.

**Keywords:** profitability, unemployment, Jordan, ROA

## I. Introduction

### 1.1 Preface

Besides, the importance of the government's role in sponsoring. The private sector remains the winning bet for solving the problem of unemployment. The government is not primarily responsible for generating job opportunities. While the private sector, especially large companies - which are often public joint stock companies. It is the responsible entity for generating job opportunities. Also, it absorbs the problem of unemployment from the local community. The role of the private sector depends on its strength and prosperity, which are related to profitability.

### 1.2 Study Problem

Economic theory indicates that the prosperity of the private sector, and its profit growth are attractive for investors to expand. It will generate more job opportunities, and lower unemployment rates too. According to theories, successive governments have agreed to adopt investment encouragement as a guaranteed approach to solving the unemployment problem. Here the question crosses: Is there a relationship between the economic establishments' profitability and unemployment rates?

### 1.3 Study Importance

The results of this study affect the strategic approach of the Jordanian government to solve the problem of unemployment. There is a clear and certain impact of the private sector profitability on reducing the unemployment rate, which confirms and supports this approach. It includes all that would enhance the private sector profitability and its continuity. If the result is different, we need to know the reason and correct the approach accordingly.

### 1.4 Study Objectives

This study generally aims to clarify the relationship and the form of the impact between two important variables: the profitability of Jordanian companies and unemployment rates.

### 1.5 The Limits of the Study

- Temporal limits: The researcher depended on data for the years from 1998 to 2020 in the analysis.
- Spatial limits: The research is a case study on the Hashemite Kingdom of Jordan.

• Objective limits: The research specialized in the impact of Jordanian companies' profitability on the unemployment rate. The research didn't address other variables that could affect unemployment.

## 2. Literature Review

Many studies have addressed the economic role of the private sector in general. These studies have agreed on the importance of the private sector, indicating that the flourishing of the economy depends on the flourishing of this sector. (Mahdi and Shukr, 2015) study is a descriptive study that reviewed the experiences of several countries that implemented privatization. This study found that the private sector has an essential role in achieving economic development and reducing unemployment levels. As well as a study (Effiong &, Ekpe, 2022) indicated that the private sector represents more than 90% of job opportunities in Nigeria. Also, the (Mahmud, & Tohopi, 2023) study was applied to the Indonesian economy.

In general, many studies have linked the financial situation of private-sector companies to unemployment rates. These studies have conducted different aspects:

1. Impact of corporate taxation on unemployment rate: such as a study by (Zirgulis, 2017), which was conducted in 41 countries. The researcher concluded that a high tax on corporate profits leads to a significant increase in the unemployment rate. Explaining that it weakens the tax competition for international capital. The same result with the study (Son, 2023), which was conducted in three countries: Vietnam, South Africa, and China. While in the (Feldmann, 2011) study, the results were contrary and shocking. The study was conducted on 19 industrialized countries during the period 1979 to 2005. The study found a positive effect of the corporate tax rate on employment, which means that raising the corporate tax leads to reducing the unemployment rate.

2. Impact of the credit volume provided to the private sector on the unemployment rate: The study (Effiong &, Ekpe, 2022) found a weak, and inverse relationship between private sector credit and the unemployment rate for the long term. In the short term, the relationship is positive but not important. The researcher addressed the reason for the impact of the credit volume provided to the private sector on the unemployment rate, that increasing the credit volume provided to the private sector helps stimulate productivity. Which in turn helps reduce unemployment rates. Therefore, the monetary authority in Nigeria must support the private sector by providing more credit. Also, by managing the interest rate appropriately to encourage loans. With the same result, the study (Daniyal & Iftikhar, 2023) which was conducted in Canada and Denmark.

3. The volume of private sector investments on the unemployment rate: The study (OKORIE & Allison, 2020) was conducted on the Nigerian economy. The researchers found a negative impact of investment in the private sector on the unemployment rate in both the short and long term. The study indicates that increasing investment in the private sector by 1% leads to a decrease in unemployment rates by 5.5% and 17.1% for the short and long term, respectively. As well as the study (Hammad & Al Hiyali, 2023), where the researchers studied the impact of private sector investment in manufacturing industries on unemployment in Iraq during the period 2004-2021. The researchers found that there is an inverse, long-term equilibrium relationship between the two variables. Increasing production in manufacturing industries by 1% leads to a decrease in the unemployment rate by 2.29. Also, the study (Sinha, 2023) reached the same result in India.

There is a lake of studies that specifically addressed the impact of private companies' profitability on the unemployment rate. The researcher found two studies that confirmed the research assumptions, that there is a negative impact of the private companies' profitability on the unemployment rate in the market of these companies. The study (Felipe, 2002) found that there is a long-term negative relationship between unemployment rates in Spain and the profitability rate of invested capital. Especially the study (Abaidoo, 2012) indicated that the growth of corporate profits in the United States of America by 5% leads to reduce the unemployment rate by 2%.

Profitability is one of the most important financial elements that determine the strength of the private sector. It is the targeted plan of government policies as a strategy to address unemployment. However, we find a lake of studies that have dealt with this issue. According to the researcher's knowledge limits, there isn't any study that has dealt with this scope in the Jordanian economy. Therefore, this study is unique research on the impact of the private companies' profitability on the unemployment rate in Jordan.

### 2.1 Study Hypotheses

To answer the study's questions and achieve its objectives, the researcher tested the following research hypothesis: **"There is a statistically significant impact of the Jordanian companies' profitability on the unemployment rate in Jordan."**

### 3. Methodology

This study took the descriptive and analytical approach, by studying the economic data in Jordan during (1998-2020).

- **Data collection method:** The data used in this study are secondary data published on the website of the Jordanian Department of Statistics, Amman Stock Exchange, and the World Bank website, too. The source of the information will be indicated when mentioned in the research.
- **Data analysis method:** a set of statistical methods was used in analyzing data and measuring relationships by using (Microsoft Excel) and (SPSS). The researcher used descriptive statistics tools for the initial analysis of the data (arithmetic mean, coefficient of variation). To analyze the relationship between the variables, the researcher designed a model for simple regression.

#### 3.1 Study Variables

This study depends on diagnosing the relationship and impact between private sector profitability and unemployment:

- **Profitability:** As is known, the private sector includes a large number of economic entities, ranging from small, medium, and large. Public shareholding companies assume the largest share of the volume and impact. Therefore, the data of the Jordanian public shareholding companies listed on the Amman Stock Exchange was adopted. The gathered data were adopted for each sector according to stock market classifications (financial sector, industrial sector, and services sector). The approved profitability ratio is the Return on Assets (ROA). The researcher calculated it by dividing net profits by total assets.
- **Unemployment:** means that several qualified members of society want to work but can't find one. Unemployment is measured by extracting the unemployment rate through the value of the number of unemployed people over the total labor force in the country.

#### 3.2 Profitability of Jordanian Economic Sectors

The data of public shareholding companies listed on the Amman Stock Exchange have been adopted as an appropriate indicator of the performance of Jordanian economic sectors. These companies are distinguished as large companies for their asset size and their impact on the economy. The Jordanian Stock Exchange divided these companies according to activity. These divisions differed over time. It differed more in names and details than fundamental differences in classification. The general classification is consistent with the classifications of the Amman Stock Exchange during the years of the study. It includes three main sectors: industrial companies, service companies, and the financial sector, which includes banks, financial companies, and insurance companies.

Figure 1 displays profitability data (ROA) for the Jordanian economic sectors. Descriptive statistics for this data were extracted as shown in Table (1). By analyzing this data, we reach the following results:

- All of the Jordanian economic sectors recorded positive profitability during the years of the study, except for the services sector in 2020. The average return on assets for service companies listed on the Amman Stock Exchange was (-0.07). This is undoubtedly a good indicator. Because these sectors have been able to record positive profitability all of these long years.
- We note that the industrial sector is the most profitable in Jordan. During the years of the study, the average return on assets for the sector was (5.21%), followed by the services sector (3.11%). While the financial sector is the least one, with an average of (1.52%). Despite this, we find that the financial sector is the most stable, as the coefficient of variation reached (43%). It is the lowest value among the sectors. The line tends to be straight, its coefficient close to zero value. As for the industrial sector and the services sector, we find great fluctuation in profitability indicators.
- Each of the industrial and service sectors recorded a consecutive improvement in profitability indicators from the beginning of the study years. Its maximum value for the service sector in 2007 with percentage (10.2%). Its maximum value for the industrial sector in 2008 with percentage (15.03%). Then the profitability line reversed in these sectors until the year 2020. The regression equation showing profitability trends in these two sectors was closest to a quadratic equation.
- Contrary to expectations, we notice an increase in the profitability of the industrial sector in the year of Corona pandemic crisis. With a positive percentage change in 2020 compared to 2019, recording (19.2%). For the services and financial sectors, they recorded negative growth. The obvious reason for this is the COVID-19 crisis.

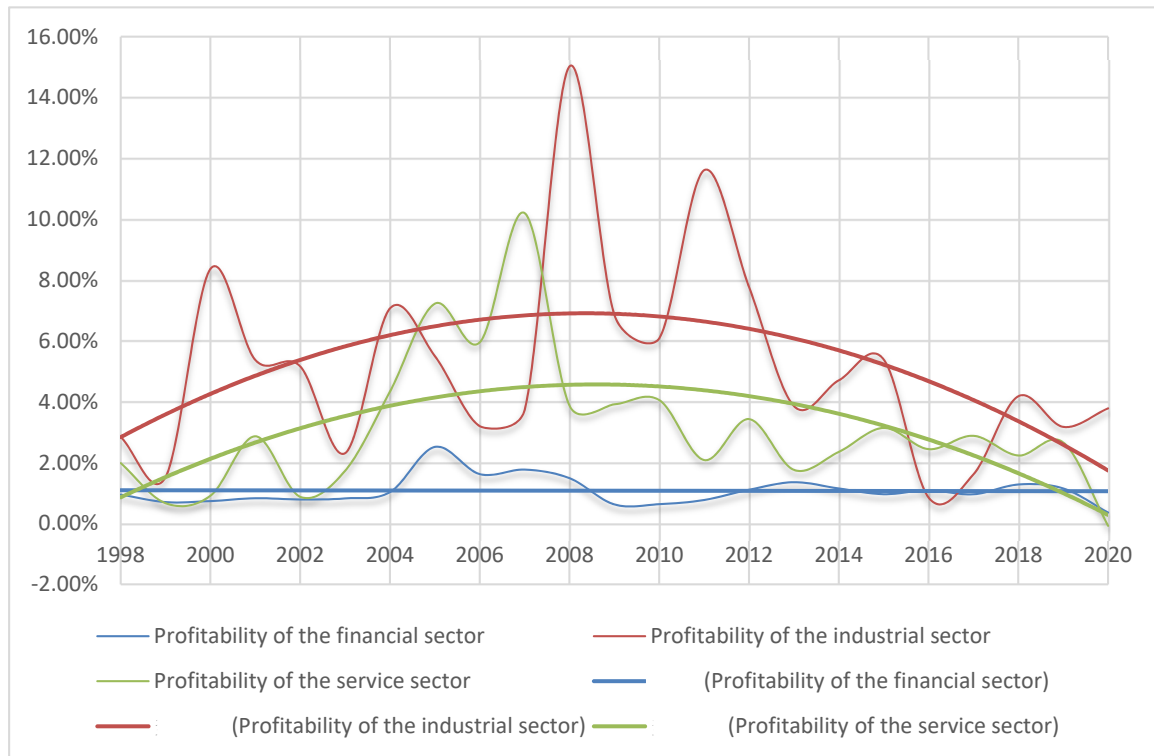


Figure 1. Profitability of the Jordanian economic sectors

Source: Prepared by the researcher using Microsoft Excel, based on Amman Stock Exchange data (<https://www.ase.com.jo/ar>).

Table 1. Descriptive statistics for profitability data of Jordanian economic sectors

Variables	Min	Max	Mean	Standard deviation	Coefficient of variation
Profitability of financial sector companies	.36	2.52	1.0748	.46097	43%
Profitability of industrial sector companies	.85	15.03	5.2187	3.27570	63%
Profitability of service sector companies	-.07	10.20	3.1139	2.26637	73%
Profitability of public shareholding companies	.47	3.12	1.5204	.58983	39%

Source: Prepared by the researcher using Microsoft Excel, based on Amman Stock Exchange data (<https://www.ase.com.jo/ar>).

### 3.3 Unemployment in Jordan

Jordan has suffered from high unemployment rates throughout the years of study. As Figure (2) shows, we notice several results that confirm this fact:

- Throughout the years of study, the unemployment rate didn't fall below 11%, which is undoubtedly a very high rate. If an economy suffers for decades from such a high unemployment rate, it is evidence of a serious and critical problem.
- We notice a positive situation from 1998 until 2014, where the unemployment rates tended to decline. But the line soon turned upward until the rate touched 20% in 2020.

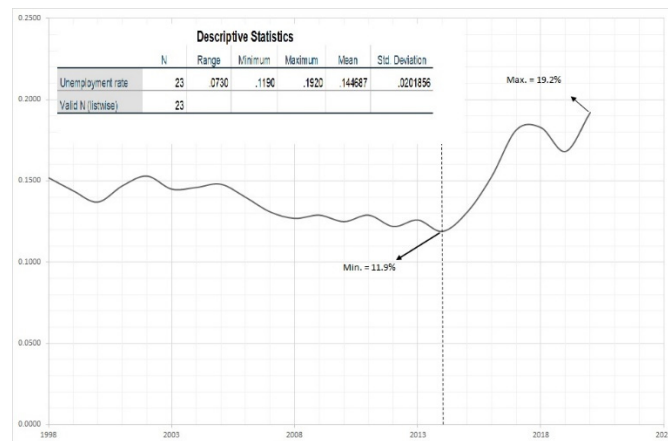


Figure 2. Unemployment rate in Jordan

Source: Prepared by the researcher using Microsoft Excel and SPSS, based on World Bank data (<https://databank.worldbank.org>).

Consecutive governments have realized that unemployment is a serious and critical problem that requires long-term strategies to solve it. We present in the points below three parts of the ministerial statements of the Jordanian governments while assuming their duties. These excerpts were chosen at distant periods, which indicates the continuation of the problem throughout the study period:

- The Ministerial statement of the Prime Minister of Jordan Abdelraouf al-Rawabdeh in 1999: “We believe that we are facing three critical issues: the economic situation, unemployment and poverty, and water. These are heavy concerns that have been magnification by local and external circumstances. In the end, they are the result of not taking the right decision at the right time and relying on time factor in resolving issues...” (quoted by Prime Minister’s Office, [www.pm.gov.jo](http://www.pm.gov.jo)).
- The Ministerial statement of the Prime Minister of Jordan Awn Al-Khasawneh in 2011: “The government does not doubt that implementing these laws - despite their importance - is the easiest part of its work. While the hardest part is finding solutions to the problems of poverty and unemployment, and the widening gaps between society classes, the following social issues, and the what resulted of political tension.” (quoted by Prime Minister’s Office, [www.pm.gov.jo](http://www.pm.gov.jo)).
- The Ministerial statement of the Prime Minister of Jordan Omar Razzaz in 2018: “The broad titles inspired by the book of the “Supreme Mandate”, reflecting the concerns of the citizen. It can be summarized in the following axes: the rule of law, facing corruption, addressing poverty and unemployment, establishing equal access to opportunities, encouraging local and foreign investment, and controlling production costs...” (quoted by Prime Minister’s Office, [www.pm.gov.jo](http://www.pm.gov.jo)).

The National Employment Strategy aimed with all its efforts to solve this critical issue by demanding the private sector to rationalize employment in the public sector. In a text was stated in the strategy document: “our demand as a strategic goal is to enable the private sector to advance, maximize the added interest, improve productivity, and expand its ability to export products and services”. (quoted by Ministry of Labor, National Employment Strategy, p. 84). The strategy charted the way to this by encouraging investments that create job opportunities for Jordanian workers.

#### 4. Statistical Analysis

##### 4.1 Data Quality Study

Through the statistical methods, the following results were found:

- There aren’t any missing values. There aren’t any extreme outliers, see Figure (3).
- The data for the variables are normally distributed with a significance ( $p$ . value > 0.05). Where the One-Sample Kolmogorov-Smirnov Normality Test was used (see Table (2)). Therefore, the parametric tests can be used.

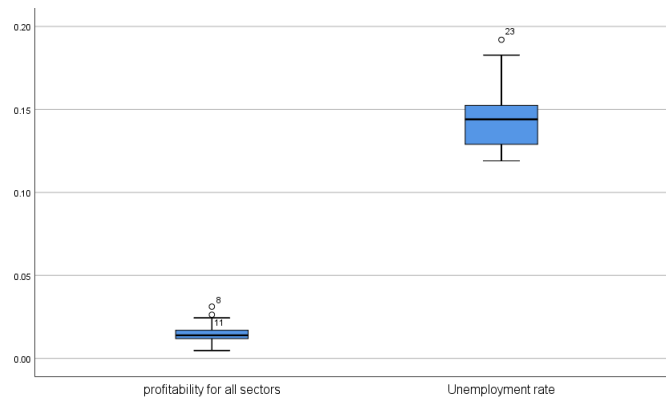


Figure 3. Detecting extreme outliers according to the (IQR) method

Source: Prepared by the researcher using SPSS.

Table 2. Test for normality of data

	Kolmogorov-Smirnov <sup>a</sup>		
	Statistic	df	Sig.
profitability for all sectors	.176	23	.064
Unemployment rate	.166	23	.099

Source: Prepared by the researcher using SPSS.

4.2 Study Hypothesis Testing

**“There is a statistically significant impact of the Jordanian companies’ profitability on the unemployment rate in Jordan.”**

First: Draw the scatterplot to determine the form of the relationship: Figure (4) shows that the relationship between the two variables is a linear negative relationship.

Second: The standard model and statistical assumptions: Based on economic theory and the scatterplot previously, we design the following standard model:

$$UR_i = f(ROA_i)$$

$$UR_i = \alpha + \beta ROA_i + \mu_i$$

We test the following statistical hypotheses:

$$H_0: \beta = 0$$

$$H_1: \beta \neq 0$$

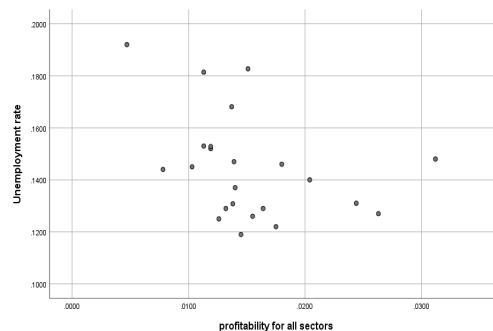


Figure 4. The scatterplot to determine the form of the relationship between the profitability for all sectors and the unemployment rate

Source: Prepared by the researcher using SPSS.

Third: Estimating the model parameters and testing the null hypothesis: depending on Tables (3 and 4), the regression equation can be estimated as follows:

$$UR_i = 0.165 - 1.305 ROA_i$$

Using the (t) test, we reject the null hypothesis and accept the alternative hypothesis at a 90% confidence interval with significance (t=-1.891, sig.=0.073). We notice the negative effect of the independent variable on the dependent variable. What confirms this result is the Pearson correlation coefficient, as it indicates a weak relationship between the two variables, but is statistically significant at the 95% confidence interval (R = 0.381, sig. = 0.036).

Table 3. Estimation of model parameters

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	.165	.011		14.656	.000
1 profitability for all sectors	-1.305	.690	-.381	-1.891	.073

a. Dependent Variable: Unemployment rate.

Source: Prepared by the researcher using SPSS.

Table 4. Pearson correlation coefficient

Correlations			
		Unemployment rate	profitability for all sectors
Pearson Correlation	Unemployment rate	1.000	-.381
	profitability for all sectors	-.381	1.000
Sig. (1-tailed)	Unemployment rate	.	.036
	profitability for all sectors	.036	.
N	Unemployment rate	23	23
	profitability for all sectors	23	23

Source: Prepared by the researcher using SPSS.

Fourth: Evaluation of explanatory power of variables, the model is statistically acceptable at the 90% confidence interval with significance (F=3.575, Sig.=0.073), see Tables (5 and 6). Even though the explanatory power is weak; the independent variable explains 14.5% of the changes occurring in the dependent variable, with a significance of (R<sup>2</sup>=0.145).

Table 5. F-test

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	1	.001	3.575	.073 <sup>b</sup>
	Residual	.008	21	.000		
	Total	.009	22			

a. Dependent Variable: Unemployment rate.

b. Predictors: (Constant), profitability for all sectors.

Source: Prepared by the researcher using SPSS.

Table 6. Evaluation of explanatory power

Model	R	R Square	Adjusted R Square	Model Summary <sup>b</sup>
				Std. Error of the Estimate
1	.381 <sup>a</sup>	.145	.105	.0190989

a. Predictors: (Constant), profitability for all sectors.

b. Dependent Variable: Unemployment rate.

Source: Prepared by the researcher using SPSS.

Fifth: Assess the Normality of Residuals in Regression, this is one of the conditions for using regression analysis. Figure 5 shows that the residuals are close to the straight line, which indicates that they are distributed normally.

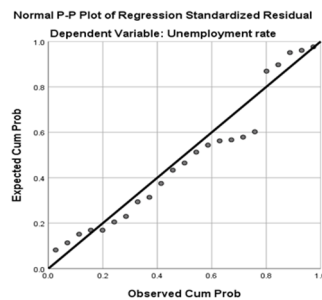


Figure 5. Residuals in regression analysis

Source: Prepared by the researcher using SPSS.

Sixth: Testing the linearity assumption: in Figure 6 which represents the form of the scatterplot of the residuals with the expected values. Since there is no specific pattern, then there is no standard problem in the model.

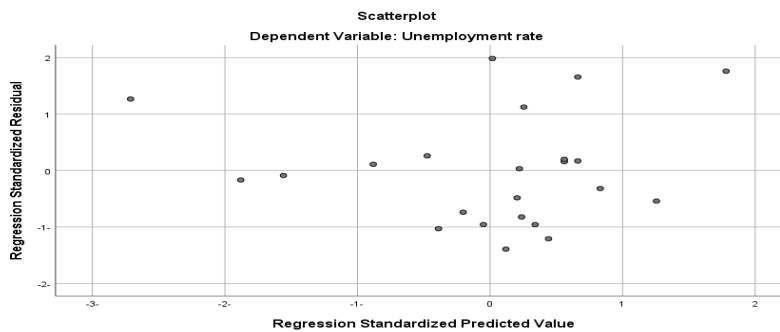


Figure 6. The Scatterplot of Residuals

Source: Prepared by the researcher using SPSS.

Seventh: The result of testing the research hypothesis: We accept the hypothesis that “There is a statistically significant impact of the Jordanian companies’ profitability on the unemployment rate in Jordan.” at a 95% confidence interval with significance (sig. = 0.023).

**5. Discussing the Results**

The results of the statistical analysis proved that there is a negative impact of corporate profitability on the unemployment rate in Jordan. This is clearly evident by comparing the time series of corporate profitability and the time series of unemployment rates. In Figure (7), we find that when there is an increase in corporate profitability during the years (1998 to 2005), there is a decrease in unemployment rates. For the period (2005 to



2014), the decline in corporate profitability coincided with the unemployment rate. While for the period (2014 to 2020), we notice a decline in corporate profitability with a significant increase in unemployment rates. This result is consistent with the findings of both (Felipe, 2002) and (Abaidoo, 2012).

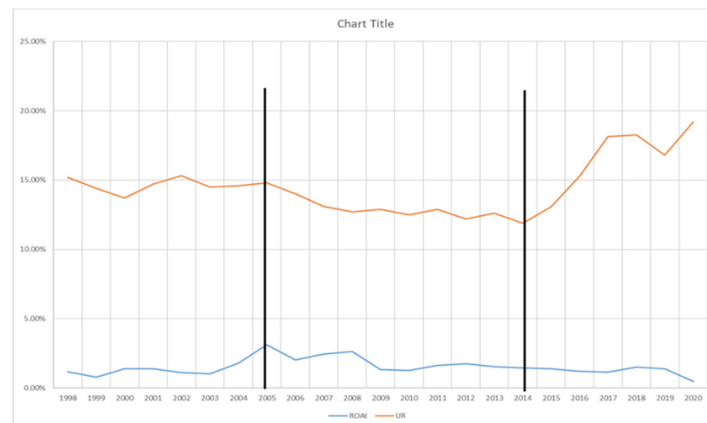


Figure 7. Time series comparison

Source: Prepared by the researcher using Microsoft Excel.

The explanation for this negative relationship is that increased corporate profitability leads to maintaining the workforce and avoiding layoffs. Additionally, increasing the motivating businessmen to expand the production process, which leads to an increase in demand for work and a decrease in unemployment rates. On the contrary, as happened in the period from (2014- 2020) the decline in corporate profits yearly led to a reduction in production activity. Thus, laying off more workers than attracting new workers. So, the unemployment rate will increase.

## 6. Conclusion

The Jordanian economy has suffered from high unemployment rates for many years. The reaction of consecutive governments was that the government sector could not absorb the increasing numbers of job seekers. Especially since Jordanian society is youthful. The applied strategy was focused on supporting the private sector as it is the key to the solution to creating more job opportunities. Thus, lower levels of unemployment. Here, this study asked: Will the recovery of the private sector, represented by Jordanian companies, lead to overcoming this serious problem? What is the relationship between the profitability of Jordanian companies and the unemployment rate?

The methodology of the study was to prepare a standard model that included a simple linear regression function. The study concluded that the Jordanian companies' profitability has a negative, statistically significant impact on unemployment rates. This result is consistent with economic theory. Therefore, it requires Jordanian governments to seriously strive to provide the appropriate investment conditions. Also, it provides all the facilities and infrastructure that enhance the competitiveness of current Jordanian companies. So, there is no other way to address the unemployment problem.

### Informed consent

Obtained.

### Ethics approval

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal and publisher adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

### Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

### Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data

are not publicly available due to privacy or ethical restrictions.

#### Data sharing statement

No additional data are available.

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