

# The Impact of Covid-19 Pandemic on the Financial Performance Indicators for Palestinian Firms Listed at PEX



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**Abstract** The literature examining the impact of the Covid-19 pandemic on the financial performance through the most popular financial performance indicators. Six indicators were used as dependent variables, where the Covid-19 considered as independent dummy variable measures by (0, 1) for the periods, 2019, and 2020 responded to the before and after the pandemic measurement. 44 companies listed at PEX were searched with its five main industry categories as sectoral classification (industrial, investment, service, insurance, and banking). Data were extracted from PEX web-page and the published financial statements for the listed companies. The research findings indicates that the industrial sector is the less impacted of the pandemic consequences for the ROA, ROE, EPS, and PE indicators, whereas the service sector is the most painful with an impact of the pandemic consequences. The investment sector is also has its portion of painful results with an impact of the pandemic consequences with dark future of investment opportunities. The insurance sector is still fighting with a moderate impact of the pandemic consequences supported by the demand for insurance service as a hedge for the expected losses. Finally, the banking sector affected mainly by the ROA and ROE indicators, as the results of the closer periods, the customers' liquidity problems, and the restrictions from the regulatory bodies.

**Keywords** Financial performance indicators · Covid-19 · ROA · ROE · EPS · PE · Tobin's Q · Debt Ratio · PEX

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## 1 Introduction

Coronavirus (COVID-19) has rapidly spread all over the world; it continues to spread uncontrollably and seriously affecting all economies, especially the operations of listed companies [1]. Therefore, since the outbreak of the COVID-19 pandemic in December 2019, various waves of infections have occurred in all parts of the world, it is a global pandemic. Threatening people's health, the pandemic has also seen ongoing lockdown measures that limit personal movement and negatively affect the global economy [2]. COVID-19 pandemic is not considered only as a health problem but also disturbs the global economies and corporations either listed or not listed at financial markets. The governments fight against it including mobility restrictions, stay-at-home orders, social distance policies, and community lockdowns [1].

Covid-19 exponentially accelerated the process, stressing the need to remove obstacles to digital transformation and foster innovative growth. During the current Covid-19 pandemic crisis, the digitalization went from being a strategic option to a necessary requirement for the survival of the mains industries [3].

With the emergence of COVID-19 at the end of 2019, the cost of the epidemic was catastrophic, and the governments attempt to overcome the pandemic, and to take all the precautions to stop or reduce the spread of the virus. The consequences of the COVID-19 pandemic are significant; this created great uncertainty regarding the economic consequences of the crisis, and as COVID-19 continued to spread around the world. The listed companies as part of the economy mainly those who has the influence in the great economy harmed a lot. The results were summarized in its financial statements and reflected in its financial indicators.

Based on the foregoing, it became clear to us the importance of shedding light on the impact through the financial indicators both before and after to the pandemic even it still spread and the virus still takes new shapes and affect overall the world.

## 2 Problem Statement

The ability and speed of companies to adapt to changed business is determined by many factors [4]. The aim of the article is to illustrate the impact of the pandemic on the financial results of the listed firms at PEX and to seek answers to the following questions:

1. What is the behavior of the financial performance indicators before and after (still) the pandemic?
2. Is the impact of the pandemic on the financial situation of enterprises within one industry in a uniform and one-way?
3. Is there any difference of the for the financial performance indicators before and after (still) (through) the pandemic?

### **3 The Importance of Research**

The importance of research emerges from the impact of the pandemic all over the world. The developing countries with its ability to overcome the consequences of the pandemic vary from those developed ones. Therefore, the consequences in the pandemic on the listed companies for developing countries, as the case of Palestine will also vary. So, the impact of the pandemic on the listed companies on those developing countries worth to be studied.

### **4 Research Objectives**

In light of the research problem, this research try to achieve the following objectives:

1. Identifying the behavior of the financial performance indicators before and after (still) the Corona pandemic.
2. Identifying the impact of the pandemic on the financial performance indicators.
3. Identifying the impact of the pandemic on the financial performance indicators through sectoral analysis for the five sectors identified in PEX.

### **5 Limitations Research**

Based on the real situation of the listed companies at PEX, and the available data demonstrated at PEX and the published financial statement of the listed companies, the following limitations were addressed:

1. Comparing the published financial statements and its calculated financial performance indicators for the available data of 2019, and 2020.
2. The period of the research represent years of 2019 and 2020 before the Corona pandemic after (through) the Corona pandemic.

### **6 Theoretical Framework and Hypothesis Development**

Financial measures have long been recognized as the basis for corporate performance measurement [5]. Researchers measure firm performance using indicators such as Return on Asset (ROA), Return on Equity (ROE) and Earning per Share (EPS) as well as Debt Ratio (DR) [6]. Whereas others using three indicators; Internal-based performance measured by Return on Assets, Market-based performance measured by Tobin's Q model (Price/Book value of Equity) and Economic-based performance measured by Economic Value add [7].

Following to that, the most of the used of financial indicators concentrated on the return on assets (ROA), return on equity (ROE), earning per share (EPS), price

earning (PE), Tobin's Q ratios for the performance measurements [8]. ROA reflects the efficiency of utilizing available assets in creating profits [9].

**ROA:** is one of the profitability indicators used to measure the financial performance, which is Return on Assets (ROA) or Return on Investment (ROI), with the following formula [10].  $ROA = \text{Net Income} / \text{Total Assets}$ .

**H01:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (ROA) for the Palestinian companies listed at PEX on sectoral categorization.

**ROE:** represents return generation on common stocks of shareholders and is recognized as an important financial indicator for owners [9]. Return on equity (ROE) is a measure of financial performance calculated by dividing net income by shareholders' equity. Because shareholders' equity is equal to a company's assets minus its debt, ROE is being considered the return on net assets [11].

**H02:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (ROE) for the Palestinian companies listed at PEX on sectoral categorization.

**EPS: Earning Per Share (EPS)** is the top most importance as compared to Market share, company's prestige and liquidity [12]. Maximizing EPS involving maximizing the shareholding wealth. Maximizing share price and EPS not only important for firms, but also it will create corporate image in investors' mind [13]. Basic EPS is calculated by dividing profit or loss attributable to ordinary equity holders of the parent entity (the numerator) by the weighted average number of ordinary shares outstanding (the denominator) during the period. The earnings numerators (profit or loss from continuing operations and net profit or loss) used for the calculation should be after deducting all expenses including taxes, minority interests, and preference dividends [14].

**H03:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (EPS) for the Palestinian companies listed at PEX on sectoral categorization.

**PE:** Price Earnings Ratio (PE): the Price Earning (P/E) ratio is indicator of the investment performance. Stock market analysts especially those who believe in value investing have used price earnings (P/E) ratio as a tool to measure how cheap or expensive a stock is [15]. P/E ratio calculated as the stock price divided by the earnings per share. PE is calculated as follow [16]:  $PE = \text{Market Value per Share} / \text{Earnings per Share}$ .

**H04:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (PE) for the Palestinian companies listed at PEX on sectoral categorization.

**Tobin's Q:** James Tobin first mentioned Tobin Q in 1977. The Q ratio indicator was defined as the market value of a firm divided by the replacement cost of the firm's

assets. The Tobin's Q ratio indicator is mostly used to calculate a company's assets in comparison to the market value of the assets of the company. The greater the value of Tobin's Q encourages companies to inject more funds to the firm. As it was indicated in the organization that the funds invested yield a great deal of return compared to the cost incurred in relation to the capital acquired. For Tobin's Q indicator the formula is [16]:  $Tobin's\ Q = \frac{\text{Total Market Value of Firm}}{\text{Total Asset Value of Firm}}$ .

**H05:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (Tobin's Q) for the Palestinian companies listed at PEX on sectoral categorization.

**Debt Ratio:** the debt ratio is the indicator of the total debt of the company-to-company assets. The lower the debt indicator, the lower the source of financing through debt. The higher the debt ratio, the higher the source of financing through debt [17].

**H06:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (Debt ratio) for the Palestinian companies listed at PEX on sectoral categorization.

## 7 Method and Procedures

Secondary sources were relied on books, periodicals, magazines related to the subject of the research. As well as relying on published financial statements for the listed companies as well as the data extracted from PEX, mostly for the financial indicators for 2019 and 2020.

### 7.1 Population and Sample of the Research

The research population consists of all Palestinian companies listed on PEX. With all the companies that have its data published and indicators were extracted from PEX. The following table summarizes the study population and sample (Table 1).

**Table 1** Research population/sample

Sector	# of Companies
Industrial	13
Service	9
Banks	5
Insurance	7
Investment	10
Total	44

## 7.2 *Research Variables*

**Dependent Variables:** The dependent variable in (the financial performance indicators): through a set of financial ratios that work on evaluating the financial performance of the listed companies at PEX and based on prior research and the problem statement consisted of the (Return on Asset (ROA), Return on Equity (ROE) and Earning per Share (EPS) as well as Debt Ratio (DR)).

**Independent variable:** Using COVID as dummy for comparing purposes, and created, where the value of “1” is assigned to all observations during the year 2020 and “0” to the prior COVID-19 period (the year 2019). The practice of assigning dummy Impact of COVID-19 on financial performance variables within the time series data [8].

**Control variable:** the listed companies at PEX categorized for five main categories, (industrial, banking, investment, insurance, and service) [18]. The performance of the Palestinian companies listed at PEX may vary according to the sectorial categorization. Therefore, this research will use the sector as control variable, and will be tested.

## 7.3 *The Statistical Methods Used*

1. Descriptive analysis: which aims to describe the data of the research sample through the measures of central tendency represented (arithmetic mean).
2. Analysis of financial ratios: this aims to clarify the importance of each ratio and the pandemic impact in the research sample.
3. Paired Samples t Test compares the means of two measurements 2019, and 2020.

## 8 **Testing Hypotheses**

The hypotheses of the research were tested through the SPSS program using the Paired Samples t Test compares the means of two measurements taken from the same individual, object, or related units. These “paired” measurements can represent things like: A measurement taken at two different times (e.g., pre-test and post-test score with an intervention in order to achieve the objectives of the research and answer its assumptions, and the results were as follows:

**First : H01:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (ROA) for the Palestinian companies listed at PEX on sectoral categorization.

By investigating the results at Table 2 it indicates the rejection of the hypothesis and there is significant impact of the pandemic on the ROA, and through the table the

**Table 2** Impact of COVID-19 pandemic on ROA

Paired differences 95% confidence interval			T	df	Sig. (2-tailed)
ROA	Lower	Upper			
	-1.58325	-1.36812	-27.269	87	0.000
Sector			ROA		Impact
			2019 (%)	2020 (%)	
Industrial			5.01	5.03	+
Service			2.81	1.87	-
Banks			0.75	0.49	-
Insurance			2.50	2.62	+
Investment			0.50	-0.60	-

industrial and insurance sectors were not influenced, where the other sectors were influenced and in decreased indicator.

**Second: H02:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (ROE) for the Palestinian companies listed at PEX on sectoral categorization.

By investigating the results at Table 3, it indicates the rejection of the hypothesis, there is significant impact of the pandemic on the ROE, and through the table the Industrial, and insurance sectors were not influenced, where the other sectors were influenced and in decreased indicator.

**Third: H03:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (EPS) for the Palestinian companies listed at PEX on sectoral categorization.

By investigating the results at Table 4 it indicates the rejection of the hypothesis and there is significant impact of the pandemic on the EPS, and through the table the

**Table 3** Impact of COVID-19 pandemic on ROE

Paired differences 95% confidence Interval			t	Df	Sig. (2-tailed)
ROE	Lower	Upper			
	-1.56608	-1.34574	-26.267	87	0.000
Sector			ROE		Impact
			2019 (%)	2020 (%)	
Industrial			6.12	5.37	+
Service			3.68	1.35	-
Banks			9.26	6.05	-
Insurance			8.65	9.51	+
Investment			0.95	-2.62	-

**Table 4** Impact of COVID-19 Pandemic on EPS

Paired differences 95% confidence interval			t	Df	Sig. (2-tailed)
EPS	Lower	Upper			
	-1.44664	-1.20298	-21.614	87	0.000
Sector			EPS		
			2019 (%)	2020 (%)	Impact
Industrial			28.33	28.33	+
Service			10.56	7.95	-
Banks			24.16	28.64	+
Insurance			21.40	24.32	+
Investment			5.07	3.93	-

Industrial, Banks and insurance sectors were not influenced, where the other sectors were influenced and in decreased indicator.

**Fourth: H04:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (PE) for the Palestinian companies listed at PEX on sectoral categorization.

By investigating the results at Table 5 it indicates the rejection of the hypothesis and there is significant impact of the pandemic on the PE, and through the table the industrial, service, banks and investment sectors were not influenced, where the other sectors were influenced and in decreased indicator.

**Fifth: H05:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (Tobin's Q) for the Palestinian companies listed at PEX on sectoral categorization.

By investigating the results at Table 6 it indicates the rejection of the hypothesis and there is significant impact of the pandemic on the Tobin's Q, and through the

**Table 5** Impact of COVID-19 Pandemic on PE

Paired differences 95% confidence interval			t	Df	Sig. (2-tailed)
PE	Lower	Upper			
	6.19654	148.05156	2.161	87	0.033
Sector			PE		
			2019 (%)	2020 (%)	Impact
Industrial			7078.88	8278.27	+
Service			14,876.15	32,685.49	+
Banks			786.32	4736.90	+
Insurance			1910.77	1137.32	-
Investment			-62.46	1411.66	+



**Table 6** Impact of COVID-19 Pandemic on Tobin's Q

Paired differences 95% confidence interval			t	Df	Sig. (2-tailed)
Tobin's Q	Lower	Upper			
	-1.08572	-0.80290	-13.273	87	0.000
Sector			Tobin's Q		
			2019	2020 (%)	Impact
Industrial			85.65	80.62	-
Service			67.32	57.26	-
Banks			5.88	6.48	+
Insurance			34.47	28.23	-
Investment			51.40	57.56	+

table the banks and investment sectors were not influenced, where the other sectors were influenced and in decreased indicator.

**Sixth: H06:** There is no statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the Corona pandemic on the financial performance indicator (Debt Ratio) for the Palestinian companies listed at PEX on sectoral categorization.

By investigating the results at Table 7 it indicates the rejection of the hypothesis and there is significant impact of the pandemic on the Tobin's Q, and through the table the industrial sector was not influenced, where the other sectors were influenced and in decreased indicator.

**Table 7** Impact of COVID-19 pandemic on debt ratio

Paired differences 95% confidence interval			t	Df	Sig. (2-tailed)
Debt ratio	Lower	Upper			
	-1.12551	-0.88701	-16.772	87	0.000
Sector			Debt ratio		
			2019 (%)	2020 (%)	Impact
Industrial			33.28	33.17	+
Service			40.58	41.52	-
Banks			91.92	92.05	-
Insurance			71.90	72.38	-
Investment			39.98	41.52	-

## 9 Conclusions

Through the analysis of the research findings, the following conclusion be addressed (Table 8)

**Table 8** Findings summary

Sector	Financial performance indicators ( Impact)					
	ROA	ROE	EPS	PE	Tobin's Q	Debt ratio
Industrial	+	+	+	+	–	+
Service	–	–	–	+	–	–
Banks	–	–	+	+	+	–
Insurance	+	+	+	–	–	–
Investment	–	–	–	+	+	–

1. The industrial sector is the pioneer fighter with the less impact of the pandemic consequences for the ROA, ROE, EPS, and PE indicators.
2. The service sector is the most painful with an impact of the pandemic consequences for all indicators except for the RE ratio supported by the telecommunication companies performance as the result of the high intensive pressure of using the interment lines.
3. The investment sector is also has its portion of painful results with an impact of the pandemic consequences for all indicators except for the PE, and Tobin's Q ratios with dark future of investment opportunities.
4. The insurance sector is still fighting with a moderate impact of the pandemic consequences for all indicators except for the RE, debt and Tobin's Q ratios ratio supported by the demand for insurance service as a hedge for the expected losses.
5. The banking sector also affected mainly by the ROA and ROE indicators, as the closer periods, the customers' liquidity problems, and the restriction from the regulatory bodies.

## 10 Recommendations

To reduce the impact and the consequences of the pandemic, and based on the findings of the research, it is recommended to enhance the operational efficiency, and dig for the new market opportunities to raise-up the net income with acceptable margins. This is, as for all, the performance indicators rely on the net income as main component in calculation the main performance indicators. In addition to balance the opportunities with the debt financing. In addition more dependence on the information technology and use the digital services. Moreover, PEX shall develop the trading process to continuous working in such conditions both technical, administrative and legal.

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