

Analysis of the impact of the COVID-19 pandemic on financial reporting and financial performance (Case of Jordan)



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ABSTRACT

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The research aims to analyze the impact of the COVID-19 pandemic (CP) on financial reports and financial performance (FP). The analytical approach was followed through a study model that shows the independent variable (CP) and the dependent variable (FP). To achieve the study's objectives, three indicators were used to measure the dependent variable (FP): the return on assets rate (ROA), the financial leverage ratio, and the company growth rate. The independent variable (CP) was measured by comparing the FP of companies listed on the Amman Stock Exchange (ASE) before and during the CP. The study was conducted on companies listed on ASE for the year 2021, for which the data required to implement this study is available, represented in the financial statements of companies listed on ASE during the period 2019-2020, with a total of 149 companies. The results indicated that the CP impacted ROA, leverage ratio, and growth rate in the services sector, while no impact was observed in the industrial and financial sectors of ASE. The study also showed that the impact of CP on ROA varied according to the company sector.

Contribution/ Originality: This study is distinguished by its focus on a contemporary topic: the impact of (CP) on financial performance (FP) across all companies listed on the ASE. Unlike previous studies that examined the impact of CP on specific sectors or individual companies, this research aims to provide a comprehensive understanding of CP's effects across various ASE sectors. It will identify which sectors were positively, negatively, or unaffected by CP, thereby aiding readers and decision-makers in understanding these dynamics.

1. INTRODUCTION

At the end of 2019, the world witnessed the emergence of a pandemic, known as COVID-19, in the Chinese city of Wuhan. During 2020, the COVID-19 pandemic spread widely across the globe. The crisis is considered one of the most significant events of the twenty-first century, as it affected various aspects of life, harmed different segments of society, and caused an unprecedented health and economic crisis. Its negative effects were reflected in various business sectors and companies worldwide.

The CP outburst has caused significant damage to the economy, healthcare, transportation, and other sectors across regions and industries. Population mobility declined sharply as a result of quarantine procedures, which led to weakened purchasing power and macroeconomic stagnation. The pandemic outbreak also affected the stock market (Liu, Wang, & Lee, 2020; Narayan, 2020; Njindan Iyke, 2020; Shaqqour, Harb, Ballout, & Jaber, 2023) and corporate performance (Fu & Shen, 2020). It is important to analyze the effect of these health conditions on

company performance during these challenging economic times, as companies are the main components of the internal economy.

Jordan, like other countries in the world, was affected by this pandemic. The Jordanian government declared a state of emergency to confront it. The government implemented comprehensive and partial home quarantine measures during that year and closed the sea and air borders for several weeks, which affected production and investment operations in various companies and the industrial, financial, and service sectors. However, the impact of the pandemic may differ depending on the size of the company and the industry to which these companies belong.

Some reports have shown many difficulties faced by companies and their lack of preparedness to confront the pandemic. The impact of this pandemic depends on the sector in which the company operates, as some sectors are considered highly exposed to risks due to the pandemic. This exposure results from a decline in demand and sales, as well as a lack of cash liquidity necessary to pay accrued liabilities on their due dates (Abu Aqrab & Al- Ahmed, 2022; Shaqqour, Alkabbji, & Masoud, 2021).

Jordan is one of the countries affected by the CP, and its impact is observed in many Jordanian companies. However, this impact may vary depending on the company's nature of work, its size, or its preparedness to confront emergency crises. Therefore, this study aims to measure the impact of the CP pandemic on the financial performance of Jordanian companies listed on the ASE, as financial performance is a quantitative measure of the company's efficiency in utilizing its assets and generating revenue. Financial performance was assessed through return on assets (ROA), financial leverage, and company growth during the fiscal period 2019–2020.

Contribution: This study is distinguished by the fact that it examines a modern topic, which is the impact of the CP on the FP of all companies listed on the ASE, whereas previous studies examined the impact of the CP on a specific sector or individual companies. Therefore, this study will help readers and decision-makers understand the CP's effect on various ASE sectors. It will also identify which sectors were positively, negatively, or not affected by the CP.

1.1. Research Problem

The CP crisis is the most notable crisis of the 21st century, as it affected all aspects of life and had negative effects on various business sectors and companies worldwide. However, the impact of the pandemic varied between corporations, depending on the industry in which they operate. Some companies are considered among the sectors highly exposed to risks as a result of this pandemic, while other companies remained unexposed, and some have been positively affected by this pandemic.

The companies listed on the ASE, across various sectors, are among those affected by the CP. FP is measured by ROA, financial leverage, and growth rate, which are considered indicators influenced by economic changes in the business environment. The research problem can be summarized as follows:

What is the impact of CP on the FP of companies listed on the ASE?

Research sub-questions:

1. What is the impact of CP on the returns on assets of companies listed on the ASE?
2. What is the impact of CP on the financial leverage of companies listed on the ASE?
3. What is the impact of CP on the growth rate of companies listed on the ASE?
4. Does the impact of CP on the FP of companies listed on the ASE differ according to the company's sector/industry?

2. LITERATURE REVIEW

Papadopoulos and Papadopoulos (2020) examined how the accounting profession was affected by the CP in Greece. The study conducted a questionnaire survey of 171 randomly selected Greek accountants. This study found that there is a strong impact of CP on the accounting profession and the work of accountants.

El-Mousawi and Kanso (2020) also tested the impact of the pandemic on the financial reporting of companies in Lebanon. A questionnaire was distributed to a sample of 300 auditors in audit offices in Lebanon. This study concluded that CP has a strong impact on the financial reporting of Lebanese companies.

Also, Al-Samadouni, Sayed, and Mohamed (2021) aim to determine the impact of the CP outburst on disclosure in financial reports. The study found a positive effect of CP on voluntary disclosure in Egyptian financial reports.

In the same context, a group of studies found that there is a negative effect of CP on the financial performance of companies, especially in the fields of tourism and transportation, through a decrease in total revenues, particularly in early 2020 (Al-Haddad, 2023; Musa & Aifuwa, 2020; Shen, Fu, Pan, Yu, & Chen, 2021). Furthermore, the statistical analysis of Khamqani and Abdo (2020) showed a negative impact of the pandemic on the indicators of the Arab financial markets.

On the other hand, some reports and studies have found that the CP has had a positive effect on the performance of some establishments by achieving high profit rates, such as companies operating in the technology and communications sectors, as a result of the heavy reliance of many sectors, such as the education and banking sectors, on the Internet for remote work. Meanwhile, other studies have found that despite the pandemic, it did not impact the operating revenues of companies in the food sector, as they achieved the same growth rates during the period of the spread of the CP virus. Qani and Bin Udayna (2020) found that Almarai Company's revenues were not affected by the pandemic but rather attained growth compared to the same year in previous years.

As for Al-Amaira (2020) results appeared to show a high-level effect of the pandemic on the performance of Jordanian insurance firms, as the results of the study indicated that the COVID-19 pandemic affected the performance of insurance firms in the financial dimension at an average level and also indicated that the technical dimension was negatively affected by the pandemic, while the human and technological dimensions were positively affected by it.

Based on the literature review, this research concludes that the CP crisis has a significant impact on the financial and economic situations of many countries, as well as on the financial performance and continuity of establishments. Most studies have found a negative effect on the liquidity and profitability of establishments, indicating that the measures implemented during the CP play a role in companies' FP.

3. METHODOLOGY

The research involves a dependent variable (FP) and an independent variable (CP). Three indicators were used to measure FP: ROA, which is calculated by the ratio of net income to the company's total assets; the financial leverage ratio, measured by the ratio of the company's total debts to total assets; and the company growth rate, measured by the ratio of the market value of shares to the book value of shares. CP is measured by comparing the FP of companies listed on the ASE before and during the pandemic. The normal distribution was tested using the Kolmogorov-Smirnov test, and the hypothesis was evaluated.

3.1. Population and Sample of the Study

The study population includes all companies listed on the ASE for 2021. The study focused on 149 companies listed on the ASE for 2021, for which the required data is available, as represented in the financial statements of the companies listed on the ASE during the period 2019-2020.

3.2. Descriptive Analysis of the Study

Table 1 presents the sectors and branches of the companies listed on the ASE, along with a descriptive analysis of the indicators of the study's dependent variable.

Table 1. Descriptive statistics.

The company	N	ROA			Leverage			Growth		
		Mean 2019	Mean 2020	Change %	Mean 2019	Mean 2020	Change %	Mean 2019	Mean 2020	Change %
Technology and communications	2	1.4	1.98	41	57.93	57.72	(1)	(0.04)	0.18	6.14
Commercial services	8	5.48	0.1	(98)	33.03	36.75	11	(0.14)	0.32	3.35
Educational services	5	7.25	5.3	(27)	24.9	25.42	2	(0.24)	0.06	1.25
Utilities and energy	5	3.15	1.87	(41)	68.63	70.63	3	0.03	(0.1)	(4.4)
Hotels and tourism	9	1.01	(7.37)	(833)	15.41	17.99	17	(0.08)	0.1	2.26
Transportation	9	(0.78)	(4.34)	(460)	35.25	37.56	7	(0.02)	0.1	6.79
Services sector	38	2.65	(1.71)	(164)	34.31	36.57	7	(0.08)	0.12	246
Mining and extraction industries	7	1.09	1.9	75	32.21	29.45	(9)	(0.07)	0.18	357
Pharmaceutical and medical industries	5	3.84	4.27	11	36.94	35.84	(3)	0.12	(0.06)	(148)
Food and beverages, textiles	7	5.52	4.56	(17)	36.49	36.93	1	0.49	0.4	(17)
Industrial sector	19	3.45	3.51	2	35.03	33.89	(3)	0.18	0.20	10
Diversified financial services	28	(0.97)	(1.75)	(81)	23.28	22.52	(3)	0.06	0	(93)
Real estate	32	(1.66)	(1.03)	38	19.39	19.86	2	0.18	0.12	(32)
Banks	14	1	0.53	(47)	87.36	87.6	0	(0.08)	(0.14)	(80)
Insurance	18	2.43	2.94	21	63.16	61.52	(3)	(0.1)	(0.02)	85
Financial sector	92	(0.24)	(0.23)	4	39.48	39.13	(1)	0.05	0.02	(60)
All companies	149	0.96	(0.13)	(114)	37.59	37.81	1	0.03	0.07	96

1. ROA indicator

It is noted from Table 1 that the CP led to a decrease in the ROA of all companies listed on the ASE by 114%, while for the services sector, the ROA decreased by 164%. In contrast, the industrial sector experienced a slight increase of 1%, and the financial sector saw a slight increase of 4%.

The ROA analysis of each company indicates that some companies within the same sector experienced a decrease, while others experienced an increase. The differences are attributable to the nature of each company's operations. For example, ROA decreased in all service sector companies except those in the technology and communications industries. This decline is due to the increased use of the Internet during the pandemic. In the industrial sector, ROA decreased for some companies and increased for others, such as those in the pharmaceutical and medical industries. The improvement in these industries is due to the increased demand for pharmaceutical and medical products. During the pandemic, in the financial sector, ROA increased for banks and insurance companies. The closures following the pandemic led to fewer accidents, positively impacting insurance companies. Conversely, real estate companies experienced a decrease in ROA due to reduced activity during this period.

2. Financial Leverage Ratio

It is noted from Table 1 that debt increased in the services sector by 36%, but decreased in the industrial sector by 3% and also decreased in the financial sector by 1%. This evidence shows that the services sector was the most affected by the pandemic, as debt increased.

3. Growth Rate

It is noted from Table 1 that the growth rate of companies listed on the ASE differed from the results of the ROA and debt rates. The results showed that the services sector grew by 241%, and the industrial sector grew by 16%, while the financial sector's growth rate decreased by 60%. This is due to the fact that the growth rate is measured by the company's share market value, which is affected by speculation.

3.3. Normal Distribution Test

The normal distribution was tested using the Kolmogorov-Smirnov test. Table 2 shows that the probability value for all items is less than 0.05. This indicates that the study data are not normally distributed. Therefore, we used nonparametric tests, specifically the Wilcoxon test, to evaluate the study hypotheses.

Table 2. Normal distribution test.

Kolmogorov-Smirnov			
Variable	Statistic	df	Sig.
ROA before COVID-19	0.151	149	0.000
ROA after COVID-19	0.104	149	0.000
Leverage before COVID-19	0.132	149	0.000
Leverage after COVID-19	0.138	149	0.000
Growth before COVID-19	0.177	149	0.000
Growth after COVID-19	0.181	149	0.000

3.4. Research Hypotheses Testing

H_{01} : There is no impact of the CP on the ROA of companies listed on ASE.

The hypothesis was tested using the Wilcoxon test, and Table 3 showed that the value of Asy. Sig. for all companies = 0.002. The result is a value less than 0.05 (significance level), and therefore the alternative hypothesis was accepted, i.e., there is an impact of the CP on the rate of ROA in companies listed on ASE.

For each sector separately, the Asymptotic Significance (Asy. Sig.) value for the services sector is 0.000, for the industrial sector is 0.809, and for the financial sector is 0.199. It is noted that the Asy. Sig. value for the services sector is below the significance level of 0.05, while for the industrial and financial sectors, it is greater than 0.05.

This indicates that there is an impact of the (CP) on the return on assets (ROA) in the services sector, whereas there is no impact of CP on ROA in the industrial and financial sectors in ASE.

Table 3. First hypothesis test.

The companies	N	Standardized test	Asymptotic (2-sided test)
Services sector	38	-3.58	0.000
Industrial sector	19	-0.24	0.809
Financial sector	92	-1.29	0.199
All companies	149	-3.05	0.002

H_{02} : There is no impact of the CP on the financial leverage ratio of companies listed on ASE.

The hypothesis was tested using the Wilcoxon test, and Table 4 showed that the value of Asy. Sig. for all companies = 0.481. This is a value greater than 0.05 (significance level), and therefore the null hypothesis was accepted, i.e., there is no impact of the CP on the financial leverage ratio in companies listed on the ASE.

For each sector separately, the value of Asymptotic Significance (Asy. Sig.) for the services sector is 0.022, for the industrial sector is 0.717, and for the financial sector is 0.486. It is noted that the Asy. Sig. value for the services sector is below 0.05 (the significance level), while for the industrial and financial sectors, it is greater than 0.05. This indicates that there is an impact of the CP on the financial leverage ratio in the services sector, whereas there is no impact of the CP on the financial leverage ratio in the industrial and financial sectors in ASE.

Table 4. Second hypothesis test.

The companies	N	Standardized test	Asymptotic (2-sided test)
Services sector	38	-2.3	0.022
Industrial sector	19	-0.36	0.717
Financial sector	92	-0.7	0.486
All companies	149	-0.7	0.481

H_{03} : There is no impact of the CP on the growth rate of companies listed on ASE.

The hypothesis was tested using the Wilcoxon test, and Table 5 showed that the value of Asy. Sig. for all companies = 0.384. This is a value greater than 0.05 (significance level), and therefore the null hypothesis was accepted, i.e., there is no impact of the CP on the growth rate in companies listed on the ASE.

For each sector individually, the Asymptotic Significance (Asy. Sig.) value was 0.031 for the services sector, 0.904 for the industrial sector, and 0.610 for the financial sector. It is noted that the Asy. Sig. value for the services sector was below 0.05 (significance level), while for the industrial and financial sectors it was greater than 0.05, indicating that there is an impact of the CP on the growth rate in the services sector, and no impact of the CP on the growth rate in the industrial and financial sectors in ASE.

Table 5. Third hypothesis test.

The companies	N	Standardized test	Asymptotic (2-sided test)
Services sector	38	-2.15	0.031
Industrial sector	19	-0.12	0.904
Financial sector	92	-0.51	0.610
All companies	149	-0.87	0.384

H_{04} : The impact of the CP on the ROA of companies listed on ASE does not differ according to their sector/industry.

The hypothesis was tested using the Wilcoxon test, and Table 6 showed that the value of Asymp. Sig. = 0.001. This value is less than 0.05 (significance level), and therefore, the alternative hypothesis was accepted. The impact of the CP on the rate of ROA in companies listed on the ASE differs according to the company's sector.

Table 6. Fourth, fifth, and sixth hypothesis tests.

Variable	N	Standardized test	Asymptotic (2-sided test)
ROA	149	(3.18)	0.001
Leverage ratio	149	(0.70)	0.484
Growth rate	149	(0.51)	0.612

H_{05} : The impact of the CP on the financial leverage ratio of companies listed on ASE does not differ according to their sector/industry.

The hypothesis was tested using the Wilcoxon test, and Table 6 showed that the value of Asy. Sig. = 0.484. This value is greater than 0.05 (significance level), and therefore the null hypothesis was accepted, i.e., the impact of the CP on the financial leverage ratio in companies listed on the ASE does not differ according to the company's sector.

H_{06} : The impact of the CP on the growth rate of companies listed on ASE does not differ according to their sector/industry.

The hypothesis was tested using the Wilcoxon test, and Table 6 showed that the value of Asy. Sig. = 0.612, this is a value. The hypothesis was tested using the Wilcoxon test, and Table 6 showed that the value of Asy. Sig. = 0.612. This is a value greater than 0.05 (significance level), and therefore the null hypothesis was accepted, i.e., the impact of the CP on the growth rate in companies listed on the ASE does not differ according to the company's sector.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1. Conclusions

The study reached the following results:

1. The CP led to a decrease in the ROA of all companies listed on the ASE by 114%, while in the services sector, the ROA decreased by 164%. Conversely, in the industrial sector, there was a slight increase of 1%, and the financial sector experienced a slight increase of 4%.

The ROA analysis of each company indicates that some companies within the same sector experienced a decrease, while others experienced an increase. This variation is attributable to the nature of each company's operations. For example, in the services sector, ROA decreased in all companies except for those in the technology and communications industries. This trend is due to the increased use of the Internet during the pandemic. In the industrial sector, ROA decreased for some companies and increased for others, such as pharmaceutical and medical industries. This is because of the increased demand for pharmaceutical and medical products. During the pandemic, in the financial sector, ROA increased in banks and insurance companies because the closures that followed the pandemic led to a decrease in accidents, positively impacting insurance companies. Conversely, the ROA of real estate companies decreased due to reduced activity during the pandemic.

2. The debt increased in the services sector by 36%, but decreased in the industrial sector by 3% and in the financial sector by 1%. This indicates that the services sector was the most affected by the pandemic, as debt increased.

3. The growth rate of companies listed on the ASE differed from the results of the ROA and debt rates, as the results showed that the services sector grew by 241% and the industrial sector grew by 16%, while the financial sector's growth rate decreased by 60%. This is due to the fact that the growth rate is measured by the market value of the company's shares, and this value is affected by speculation.

4. The CP affects ROA in the services sector in ASE but not in the industrial or financial sectors.

5. There is an impact of the CP on the leverage ratio in the services sector in the stock exchange, and there is no impact of the CP on the leverage ratio in the industrial sector and the financial sector in ASE.

6. There is an impact of the CP on the growth rate in the services sector in the stock exchange, and there is no impact of the CP on the growth rate in the industrial sector and the financial sector in ASE.
7. The impact of the CP on ROA in companies listed on the ASE varies according to the company's sector.
8. The impact of the CP on the leverage ratio in companies listed on the ASE does not differ according to the company's sector.
9. The impact of the CP on the growth rate in companies listed on the ASE does not differ according to the company's sector.

4.2. Recommendations

The research ultimately presents the following recommendations: The Jordanian government should assist enterprises adversely impacted by recent challenges to prevent their insolvency and liquidation. The government should extend assistance to enterprises significantly affected by the CP, particularly in the transportation, tourism, and hospitality industries. Additionally, further studies and analyses should be conducted regarding the impact of the CP on various enterprises.

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