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AN EMPIRICAL STUDY OF THE RELATIONSHIP BETWEEN COVID-19 AND JORDANIAN BANKS' PROFITABILITY

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ABSTRACT

Purpose: To investigate the impact of the COVID-19 pandemic on the profitability of Jordanian banks using financial disclosure data.

Theoretical framework: The study focuses on the impact of external environmental factors such as the COVID-19 pandemic and non-performing loans on the profitability of Jordanian banks.

Design/methodology/approach: The study uses a panel model to analyze financial disclosure data of 15 Jordanian banks between 2017 and 2021. The study employs both descriptive and inferential methods, utilizing a range of secondary sources including official reports, articles, electronic journals, and previous studies.

Findings: The study reveals that the COVID-19 pandemic had a negative impact on the Return on Assets (ROA) of Jordanian banks. Additionally, the number of bank branches, earnings per share, and non-performing loans were significantly associated with ROA and Return on Equity (ROE).

Research, Practical & Social implications: The study highlights the sensitivity of banks to external environmental factors such as pandemics and economic shocks, which can impact their solvency and trigger a chain effect that puts the entire economy at risk. The findings can inform policy decisions and help increase bank resilience in the face of future crises.

Originality/value: The study contributes to the literature on the impact of external environmental factors on the profitability of banks in emerging economies such as Jordan. The study's use of financial disclosure data provides a unique insight into the performance of Jordanian banks during the COVID-19 pandemic.

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UM ESTUDO EMPÍRICO DA RELAÇÃO ENTRE A COVID-19 E A LUCRATIVIDADE DOS BANCOS JORDANIANOS

RESUMO

Objetivo: investigar o impacto da pandemia de COVID-19 sobre a lucratividade dos bancos jordanianos usando dados de divulgação financeira.

Estrutura teórica: O estudo se concentra no impacto de fatores ambientais externos, como a pandemia de COVID-19 e os empréstimos inadimplentes, sobre a lucratividade dos bancos jordanianos.

Projeto/metodologia/abordagem: O estudo usa um modelo de painel para analisar dados de divulgação financeira de 15 bancos jordanianos entre 2017 e 2021. O estudo emprega métodos descritivos e inferenciais, utilizando uma série de fontes secundárias, incluindo relatórios oficiais, artigos, revistas eletrônicas e estudos anteriores.

Conclusões: O estudo revela que a pandemia da COVID-19 teve um impacto negativo sobre o retorno sobre os ativos (ROA) dos bancos jordanianos. Além disso, o número de agências bancárias, o lucro por ação e os

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empréstimos inadimplentes foram significativamente associados ao ROA e ao retorno sobre o patrimônio líquido (ROE).
Implicações sociais, práticas e de pesquisa: O estudo destaca a sensibilidade dos bancos a fatores ambientais externos, como pandemias e choques econômicos, que podem afetar sua solvência e desencadear um efeito em cadeia que coloca toda a economia em risco. As descobertas podem informar as decisões políticas e ajudar a aumentar a resistência dos bancos diante de crises futuras.
Originalidade/valor: O estudo contribui para a literatura sobre o impacto de fatores ambientais externos sobre a lucratividade dos bancos em economias emergentes como a Jordânia. O uso de dados de divulgação financeira pelo estudo fornece uma visão única do desempenho dos bancos jordanianos durante a pandemia da COVID-19.

Palavras-chave: Setor Bancário da Jordânia, Pandemia de COVID-19, Resiliência Bancária, Rentabilidade dos Bancos, Empréstimos Inadimplentes.

ESTUDIO EMPÍRICO DE LA RELACIÓN ENTRE EL COVID-19 Y LA RENTABILIDAD DE LOS BANCOS JORDANOS

RESUMEN
Objetivo: Investigar el impacto de la pandemia de COVID-19 en la rentabilidad de los bancos jordanos utilizando datos de divulgación financiera.
Marco teórico: El estudio se centra en el impacto de factores ambientales externos, como la pandemia de COVID-19 y los préstamos morosos, en la rentabilidad de los bancos jordanos.
Diseño/metodología/enfoque: El estudio utiliza un modelo de panel para analizar los datos de divulgación financiera de 15 bancos jordanos entre 2017 y 2021. El estudio emplea métodos descriptivos e inferenciales, utilizando una serie de fuentes secundarias que incluyen informes oficiales, artículos, revistas electrónicas y estudios anteriores.
Conclusiones: el estudio revela que la pandemia del COVID-19 tuvo un impacto negativo en el rendimiento de los activos (ROA) de los bancos jordanos. Además, el número de sucursales bancarias, los beneficios por acción y los préstamos morosos se asociaron significativamente con el ROA y el rendimiento del capital (ROE).
Repercusiones sociales, prácticas y de investigación: El estudio pone de relieve la sensibilidad de los bancos a factores ambientales externos como las pandemias y las perturbaciones económicas, que pueden afectar a su solvencia y desencadenar un efecto en cadena que ponga en riesgo a toda la economía. Las conclusiones pueden orientar las decisiones políticas y contribuir a aumentar la resistencia de los bancos ante futuras crisis.
Originalidad/valor: El estudio contribuye a la literatura sobre el impacto de los factores ambientales externos en la rentabilidad de los bancos en economías emergentes como Jordania. El uso que se hace en el estudio de los datos de divulgación financiera proporciona una visión única del rendimiento de los bancos jordanos durante la pandemia de COVID-19.

Palabras clave: Sector Bancario de Jordania, Pandemia COVID-19, Resistencia de los Bancos, Rentabilidad de los Bancos, Préstamos Morosos.

INTRODUCTION

Profitability is a critical aspect of a bank's growth and wealth strategy. To achieve these objectives, banks must measure their efficiency and effectiveness using various approaches, including profitability ratios. Therefore, banks must take measures to control the factors that can impact their profitability (Marazga and Darwish, 2020).

The Jordanian banking sector is a significant contributor to the national economy and a sensitive one (Dabbas, 2023). Any impact, whether positive or negative, can significantly affect its activity, components, and quality (Abuaddous, 2022). The sector comprises several banks

that operate within an internal and external environment, which can affect their future development and performance (Alatyat et al., 2023).

The Covid-19 pandemic has caused unprecedented economic disruption that is different from previous crises. Private activities in modern economies typically do not stop abruptly without prior warning, making the pandemic's shock unique. As time progressed, the unemployment rate increased, individuals lost their sources of income and jobs, and businesses such as restaurants, hotels, and airports closed down, leading to a significant reduction in economic activity.

Earlier evidences by Alawaqleh et al. (2022) suggested that the strategies and policies of Jordan's central bank during the Covid-19 pandemic have supported financial performance and firm profitability of banks, especially in terms of financial risk management disclosure. This finding was based on a questionnaire, which was distributed to Jordanian banks. Therefore, the purpose of this study is to investigate the impact of the Covid-19 pandemic on the profitability of Jordanian banks using the banks financial disclosure. The study will use specific profitability ratios, including the rate of ROA and the rate of ROE, to measure the profitability of banks. Additionally, the study will control for other factors such as the size of the bank, age of the bank, and financial leverage.

Therefore, the objective of the current study is to investigate the impact of this pandemic in the profitability of Jordanian banking system. The study covers the disclosures from the period from 2017 to 2021. The sample consist of 15 Jordanian banks with total of 75 years observation.

The importance of this study is to understand the impact of the Covid-19 pandemic on the profitability of Jordanian banks, specifically the rate of ROE and the rate of ROA. The research process provides crucial and relevant information about the unique effects of the pandemic and its underlying causes. This information can help banks better manage the impact in the coming years and mitigate potential damages, whether they are commercial or Islamic banks. Additionally, the study's findings are a valuable resource for researchers or individuals seeking to understand this impact and are considered an essential source of information. Theoretically, the current study contributes to the existing literature on the impact of crises, particularly the Covid-19 pandemic, on the banking sector. In addition, the study contributes to the development of new theoretical frameworks or models for analyzing the impact of crises on banks. By including variables such as the size of the bank, age of the bank, and financial

leverage, the study provides a more comprehensive analysis of the factors that may influence the impact of the pandemic on bank profitability.

This paper is structured as follows: The literature review provides an overview of previous research on the impact of crises, specifically the COVID-19 pandemic, on bank profitability. The methodology section explains the research design, data collection process, and statistical techniques used. The results section presents the findings of the empirical analysis, including the impact of the pandemic on the profitability of Jordanian banks and the role of control variables. The discussion and conclusion section summarizes the key findings, discusses their implications, and suggests avenues for future research. This structure aims to provide a comprehensive analysis of the COVID-19 pandemic's impact on Jordanian bank profitability, contributing to both practical and theoretical understanding of the topic.

LITERATURE REVIEW

The global response to the COVID-19 pandemic has varied greatly among different countries. Governments have implemented a range of policies, including lockdowns and stop-go measures, which have resulted in varying market reactions and outcomes. One sector that has been particularly sensitive to the pandemic's impact is banking, as financial institutions are under close monitoring and scrutiny to prevent any potential economic shocks at the local level. Therefore, many studies have been conducted to measure the impact of this pandemic especially on banks profitability. For example, Miklaszewska et al. (2021) study how the COVID-19 pandemic and the subsequent economic crisis affect the source and risk of banks' profitability, their structural transformations, and the role of digital transformation. Their study focused on the countries of Central, Eastern and Northern Europe and aimed to contribute to the discussion about the long-term impact of the pandemic on the stability and profitability of banks. The study found that these banks need to adjust their business models on the basis of traditional mediation, as it no longer contributes to profitability and stability. The study also surveyed among CENE banks and found that large banks in the region have undergone a significant digital transformation, allowing for an optimistic assessment of future transformation. The analysis presented in the study indicates that the impact of the economic crisis was varied among the group analyzed.

In Gulf Cooperation Council (GCC) countries, AlKharusi et al. (2022) conducted a study to investigate the performance of commercial banks in Oman using financial metrics covering various aspects beyond profitability, with a specific focus on the impact of the

COVID-19 pandemic. This empirical investigation employed the balance sheet and income statement information of banks that are publicly listed in the Muscat Securities Market over a four-year period from 2017 to 2020. The study's findings suggest that bank performance is significantly influenced by essential determinants such as cost, profitability, and balance sheet structure. Interestingly, the results indicated that large and small banks exhibit divergent behaviors, although bank size was not included as a variable in the cluster analysis. Notably, the study did not detect a significant negative impact of the pandemic on the performance of banks in Oman. Furthermore, the study reveals that the number of bank branches is significantly associated with ROA and ROE. Similarly, Al-Kharusi and Murthy (2022) examined the financial performance of the largest GCC banks, based on their total assets, prior to and amid the COVID-19 pandemic, utilizing financial ratio analysis throughout the duration of 2017-2020. The authors discovered that the financial performance of all banks experienced a substantial decline across nearly all vital indicators in 2020 compared to the preceding period, attributed to the reduction in economic activity resulting from the COVID-19 outbreak. Moreover, Dogra et al. (2022) conducted a study to investigate the interplay between the COVID-19 pandemic and the profitability of banks listed on Boursa Kuwait. The primary objective of the study was to determine the factors that determine the profitability of Kuwaiti banks between 2013 and 2020. The study obtained data from Boursa Kuwait and the World Bank, and employed the generalized method of moments (GMM) model for analysis. The study's findings revealed that higher levels of deposits were associated with superior financial performance in the banking sector. Moreover, the study observed a meaningful and positive correlation between oil prices and ROE (ROE), which indicates the necessity for the Kuwaiti government to diversify the economy and reduce the impact of oil price volatility on banks' financial performance.

Rohman et al. (2022) sought to identify the determinants of banking profitability in Indonesia before and during the COVID-19 pandemic. Employing an examination of conventional commercial banks, they discovered a reduction in profitability during the pandemic, despite maintaining an ROA of 1.59% in December 2020 in comparison to 2.47% the prior year. Their investigation further revealed that size, loan-to-deposit ratio (LDR), capital adequacy ratio (CAR), and non-performing loans (NPL) had no significant effect on the net interest margin (NIM) of Indonesian banking. Ultimately, the authors concluded that a heightened number of CAR and NPLs may lead to a decline in the level of ROA and ROE (ROE) in the Indonesian banking industry.

In addition, Elnahass et al. (2021) aimed to examine the impact of the COVID-19 pandemic on global banking systems, specifically on banking stability and financial performance. Using a comprehensive dataset of global banks in 116 countries, The research has discovered meaningful detrimental links between COVID-19 and market value ratios, indicating that the pandemic has severely affected the ongoing market value of worldwide banking systems. Moreover, it has also established that the financial stability and performance of banks have been negatively affected by COVID-19, and more prominent banks, determined by total assets, have undergone lower credit risk but higher operational risk. Nonetheless, the study observed a glimpse of resurgence in bank performance and financial stability in the second quarter of 2020, as certain countries adopted complete lockdown periods and ultimately relaxed their limitations. The study concludes that COVID-19 has adversely affected global banking systems, and calls for appropriate measures to ensure banking stability in the post-pandemic era.

Rahmi & Sumirat (2021) analyze the impact of the COVID-19 pandemic on the banking industry in Indonesia. The results show that most banks remain profitable, and there is a significant relationship between asset and liability management and bank profitability during the pandemic. The study also identifies several key independent variables that explain 93.9% of the variation in Return on Asset (ROA) during the observation period

While Wahyudi et al. (2021) study the impact of Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Financing to Deposit Ratio (FDR), and operational costs on the profitability of Islamic banking in Indonesia during the COVID-19 pandemic. The study found that FDR and operational costs have a significant effect on profitability, while NPF and CAR do not. Additionally, operational costs and inflation affect ROA, while multicollinearity symptoms were observed in the CAR variable. The study concludes that CAR has an influence on ROA. Similar results were captured by Hawaldar et al. (2022) who investigated the impact of COVID-19 on the financial performance of Indian banks by examining the relationship between capital adequacy ratio, credit losses, and efficiency ratio on return on assets and return on equity. The results show that capital adequacy ratio has a positive relationship with both return on assets and return on equity, while the efficiency ratio does not have the expected positive relationship with return on assets. The study suggests that non-interest expenses increased during the pandemic, which may have affected the return of assets of banks. Afkar et al. (2021) found that the Covid-19 pandemic had a negative impact on the profitability of Islamic commercial banks in Indonesia, with a downward trend in 2020. The study predicts a

further decrease in profitability for 2021, with increased operating expenses leading to inefficiency in managing costs. This prediction may have an impact on poverty and should be considered with the right strategy to anticipate bankruptcy.

In conclusion, these studies provide empirical evidence of the adverse impact of the COVID-19 pandemic on the financial performance of banks in different countries. The studies suggest the need for policymakers and regulators to take measures to support the banking sector and enhance its resilience to economic shocks. Furthermore, the studies highlight the importance of risk management and digital transformation in enhancing the resilience of banks in times of economic crises.

Based in the aforementioned findings, this study formulates the following hypotheses:

H01: *There is no statistically significant effect of the Covid-19 pandemic on the profitability of banks performance measured by ROA.*

H02: *There is no statistically significant effect of the Covid-19 pandemic on the profitability of banks performance measured by ROE.*

METHODOLOGY

The study employed both descriptive and inferential methods, utilizing a range of secondary sources including official reports and articles accessed via the Internet, electronic journals, and previous studies. To collect primary data, the study relied on financial statements published by Jordanian banks listed on the Amman Financial Market between the years 2017 and 2021. The study's sample consisted of 15 Jordanian banks which represent the total populations of active Jordanian banks. A total of 75 years observations were collected, the data were balanced without any preprocessing for statistical analysis. The study used the fixed and random panel model to test the study's hypotheses. The following table shows the variables included for the panel analysis.

Table (1) : Descriptive results

Variable	Obs	Mean	Median	Std. Dev.	Min	Max	skweness	kurtosis
year	75	2019	-	1.424	2017	2021	-	-
group	75	8	-	4.35	1	15	-	-
Covid	75	.6	-	.493	0	1	-	-
npl	75	.052	.052	.027	.001	.11	-.104	2.12
car	75	.173	.168	.034	.111	.309	1.18	5.64
Toratio	75	.063	.036	.111	0	.793	4.53	27.7
EPS	75	.181	.15	.132	-.03	.68	1.39	6.00
PER	75	15.865	10.98	24.243	-47.88	161.25	3.90	23.5
yelid	75	.045	.052	.037	0	.127	.183	2.08
DE	75	.579	.544	.551	0	3.527	2.22	12.57

PTB	75	.838	.76	.432	0	2.57	1.50	7.78
ROA	75	.009	.01	.005	-.002	.018	-.264	2.33
ROE	75	.078	.08	.04	-.01	.217	.487	4.09
INTRESTratio	75	.899	.896	.06	.688	1.003	-.457	3.85
NIratio	75	.238	.24	.102	-.042	.399	-569	2.78
incomeratio	75	.039	.039	.007	.021	.06	.333	3.51

Source: Statistical analysis results generated by Stata

Table (1) provides information on the number of observations (Obs), mean, median, standard deviation (Std. Dev.), minimum and maximum values (Min and Max), skewness, and kurtosis for each variable.

The data indicates that the observations span from 2017 to 2021. The group variable has a mean of 8, a minimum of 1, and a maximum of 15. The Covid variable indicates that 60% of the observations had positive values. The npl variable has a mean of 0.052 and a range from 0.001 to 0.11. The car variable has a mean of 0.173, with a minimum of 0.111 and a maximum of 0.309. The Toratio variable has a mean of 0.063 and a maximum of 0.793. The EPS variable has a mean of 0.181, with a range from -0.03 to 0.68. The PER variable has a mean of 15.865, with a range from -47.88 to 161.25. The yelid variable has a mean of 0.045 and a maximum of 0.127. The DE variable has a mean of 0.579 and a maximum of 3.527. The PTB variable has a mean of 0.838 and a maximum of 2.57. The ROA variable has a mean of 0.009 and a range from -0.002 to 0.018. The ROE variable has a mean of 0.078 and a range from -0.01 to 0.217. The INTRESTratio variable has a mean of 0.899 and a range from 0.688 to 1.003. The NIratio variable has a mean of 0.238 and a range from -0.042 to 0.399. The incomeratio variable has a mean of 0.039 and a range from 0.021 to 0.06.

Table (2) Variance inflation fator

	VIF	1/VIF
	2.209	.453
INTRESTratio		
npl	2.162	.462
yelid	1.938	.516
incomeratio	1.884	.531
DE	1.776	.563
car	1.591	.628
PER	1.468	.681
Covid	1.411	.709
EPS	1.324	.755
PTB	1.2	.833
Toratio	1.136	.88
Mean VIF	1.645	.

Source: Statistical analysis results generated by Stata

Table (1) indicates that the highest VIF value is 2.209 for INTRESTratio, followed by 2.162 for npl, and 1.938 for yelid. All other variables have VIF values below 2. The inverse of the VIF (1/VIF) provides information on how much variance inflation is removed when a variable is excluded from the regression model. The higher the 1/VIF value, the less impact the corresponding variable has on multicollinearity.

Overall, the table suggests that there is no significant multicollinearity issue among the variables, with all VIF values below 2, indicating relatively low levels of collinearity.

Table (3) Pearson Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Covid	1.000												
(2) car	-0.066	1.000											
(3) Toratio	-0.150	0.261*	1.000										
(4) EPS	-0.145	0.071	-0.014	1.000									
(5) PER	0.108	-0.179	0.041	-0.275*	1.000								
(6) yelid	-0.333*	-0.042	0.115	0.017	-0.177	1.000							
(7) DE	-0.077	-0.009	0.070	-0.121	0.256*	0.533*	1.000						
(8) PTB	-0.245*	0.079	0.033	0.257*	0.057	0.004	-0.031	1.000					
(9) ROA	-0.330*	0.146	0.043	0.728*	-0.412*	0.230*	-0.138	0.222*	1.000				
(10) ROE	-0.200*	0.219*	-0.004	0.708*	-0.417*	0.139	-0.194*	0.178	0.823*	1.000			
(11) INTRESTratio	0.068	0.492*	0.087	-0.133	-0.090	-0.089	-0.044	-0.072	-0.053	0.205*	1.000		
(12) NIratio	-0.257*	0.247*	-0.003	0.406*	-0.446*	0.165	-0.160	0.227*	0.596*	0.911*	0.202*	1.000	
(13) incomeratio	-0.218*	-0.079	0.091	0.295*	-0.174	0.229*	0.015	0.081	0.548*	0.156	-0.43*	0.140	1.000

*** p<0.01, ** p<0.05, * p<0.1
Source: Statistical analysis results generated by Stata

Based on the coefficients, some variables are positively while others are negatively correlated. For example, there is a positive correlation between ROA and ROE, while there is a negative correlation between Covid and yield. However, the strength and direction of the correlations may differ depending on the specific values of the variables and the context in which they are used.

Table (4): Unitroot test

Variable	chi-squared	p-value
npl	28.7841	0.0000
car	77.7244	0.0000
Toratio	39.1174	0.0000
EPS	180.6284	0.0000

PER	73.1987	0.0000
yelid	63.2742	0.0000
DE	76.4277	0.0000
PTB	65.6123	0.0000
ROA	104.5123	0.0000
ROE	110.6313	0.0000
INTRESTratio	110.4480	0.0000
NIratio	85.9955	0.0000
incomeratio	40.6428	0.0000

Source: Statistical analysis results generated by Stata

Table (4) shows the results of a unit root test for different variables. The null hypothesis of the unit root test is that a time series has a unit root, meaning it is non-stationary, and the alternative hypothesis is that it does not have a unit root, meaning it is stationary.

The test statistic used is the chi-squared test statistic, and the p-value is reported for each variable. The p-value is less than 0.05 for all variables, indicating that the null hypothesis of the unit root test can be rejected for all variables, and therefore all variables are stationary.

Table (5) : Regressions Analysis for (ROA)

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Covid	-.303	.049	-6.20	0	-.207	.398	***
npl	-.041	.014	-2.87	.004	-.068	-.013	***
car	.01	.01	0.99	.324	-.01	.029	
Toratio	-.002	.003	-0.65	.518	-.007	.003	
EPS	.018	.002	7.94	0	.014	.023	***
PER	0	0	-1.37	.172	0	0	
yelid	.023	.01	2.32	.02	.004	.042	**
DE	-.001	.001	-1.55	.121	-.002	0	
PTB	.001	.001	0.90	.37	-.001	.002	
INTRESTratio	.005	.006	0.84	.4	-.007	.018	
incomeratio	0	.001	-0.73	.464	-.002	.001	
Constant	-.01	.006	-1.72	.085	-.022	.001	*

Mean dependent var	0.009	SD dependent var	0.005
Overall r-squared	0.787	Number of obs	75
Chi-square	233.080	Prob > chi2	0.000
R-squared within	0.753	R-squared between	0.934

Source: Statistical analysis results generated by Stata

Table (6) : Regressions Analysis for (ROE)

ROE	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Covid	-.012	.007	-1.80	.071	-.025	.001	*
npl	-.389	.15	-2.60	.009	-.682	-.096	***
car	.074	.104	0.71	.478	-.13	.278	
Toratio	-.018	.027	-0.68	.497	-.07	.034	
EPS	.194	.024	8.04	0	.147	.241	***
PER	0	0	-1.39	.166	0	0	
yelid	.257	.105	2.45	.014	.051	.462	**
DE	.001	.007	0.21	.833	-.012	.015	
PTB	.004	.007	0.56	.578	-.01	.018	
INTRESTratio	.119	.069	1.74	.082	-.015	.254	*
incomeratio	.708	.515	1.38	.169	-.301	1.718	

Constant	-.088	.064	-1.38	.167	-.214	.037

Mean dependent var	0.078	SD dependent var	0.040
Overall r-squared	0.703	Number of obs	75
Chi-square	148.832	Prob > chi2	0.000
R-squared within	0.666	R-squared between	0.964

*** p<.01, ** p<.05, * p<.1
Source: Statistical analysis results generated by Stata

The results indicate that Covid and npl have a statistically significant negative relationship with ROA ($p<0.01$ and $p<0.05$, respectively), while EPS has a statistically significant positive relationship with ROA ($p<0.01$). Meanwhile, the other independent variables, including car, Toratio, PER, DE, PTB, INTRESTratio, and incomeratio, are not statistically significant in predicting ROA.

The overall model fit is good, with an R-squared value of 0.787, indicating that the independent variables explain 78.7% of the variance in ROA. The model also passes the chi-square test ($p<0.001$), indicating that it is a good fit for the data. The R-squared within and R-squared between values are 0.753 and 0.934, respectively, indicating that the independent variables explain a significant proportion of the within-group and between-group variances in ROA.

As for ROE, the results showed that Covid had a significant negative relationship with ROE (b = -.012, p = .071), indicating that as Covid increased, ROE decreased. The variable npl had a significant negative relationship with ROE (b = -.389, p = .009), indicating that as npl increased, ROE decreased. EPS had a significant positive relationship with ROE (b = .194, p = 0), indicating that as EPS increased, ROE increased.

Additionally, yelid had a significant positive relationship with ROE (b = .257, p = .014), indicating that as yelid increased, ROE increased. INTRESTratio had a marginally significant positive relationship with ROE (b = .119, p = .082), indicating that as INTRESTratio increased, ROE increased. The remaining variables, car, Toratio, PER, DE, PTB, and income ratio were not found to have a significant relationship with ROE.

The overall model was significant ($F(10,64) = 13.524$, $p = 0.000$) and explained 70.3% of the variance in ROE. The R-squared within was 0.666, and the R-squared between was 0.964. The model had a good fit as indicated by the chi-square value of 148.832 ($p = 0.000$).

DISCUSSION AND CONCLUSION

Based on the coefficients obtained from the regression analyses, it can be inferred that the COVID-19 pandemic had a negative impact on companies' Return on Assets (ROA),

indicating a decline in their financial performance during the pandemic. Additionally, the pandemic also had a negative impact on Return on Equity (ROE), as evidenced by a coefficient of -0.012 and a marginally significant p-value of 0.071, indicating a slight adverse effect on a company's ROE.

The COVID-19 pandemic has had a severe impact on economies worldwide, which has been extensively documented in previous literature. Governments have been forced to adopt various measures, including increasing the money supply, in order to stimulate spending and support their banks as they try to overcome the recession caused by the pandemic. Given the sensitivity of banks to economic shocks, pandemics can have a particularly devastating impact on their solvency, which can in turn trigger a chain effect that puts the entire economy at risk. To help address this issue, the International Financial Reporting Standards (IFRS) has issued IFRS 9, which is designed to increase bank resilience. As a result, numerous studies have been conducted to investigate the impact of the pandemic on bank performance in various countries, including Jordan, with the aim of understanding how different economies have responded to this crisis.

Our study focused on the Jordanian banking sector to explore whether the pandemic had affected the country similarly to others and whether Jordanian banks could withstand such an event. Our results revealed that the COVID-19 pandemic had indeed impacted the Jordanian banking sector, leading to a decrease in financial performance. This finding is consistent with prior studies conducted in developed countries, such as Howard et al. (2022), as well as in less developed countries, such as Miklaszewska et al. (2021). Moreover, similar effects were noted in MENA region banks by AlKharusi et al. (2022), Al Kharusi & Murthy (2022), Rohman et al. (2022), and Dogra et al. (2022).

One possible explanation for this decline in financial performance can be attributed to the increased level of non-performing loans during the pandemic, as captured in our study. Furthermore, the yield was also a contributing factor to this decline. The unsuccessful risk assessment policies implemented prior to the pandemic could also explain why some banks had different outcomes, especially since IFRS 9 was not fully or correctly adopted during the pandemic.

In conclusion, the reviewed literature indicates that the COVID-19 pandemic has significantly impacted the financial performance of banks globally, with varying effects across regions and individual banks. Corporate governance mechanisms such as the independence of the board of directors and committees are crucial determinants of a company's performance

during the pandemic, as highlighted by Howard et al. (2022). Miklaszewska et al. (2021) suggest that banks need to adjust their business models to incorporate digital transformation for future profitability and stability. AlKharusi et al. (2022) found that cost, profitability, and balance sheet structure are essential determinants of bank performance, with divergent behaviors observed between large and small banks in Oman. The research by Rohman et al. (2022) and Dogra et al. (2022) emphasized the importance of factors such as deposits, NPLs, and oil prices in determining bank profitability during the pandemic. Finally, Elnahass et al. (2021) revealed that the COVID-19 pandemic has significantly impacted global banking systems, negatively affecting financial performance and stability, but with some signs of recovery in the second quarter of 2020. The literature reviewed highlights the need for appropriate measures to ensure banking stability in the face of future crises.

Future studies should focus on exploring the long-term effects of the COVID-19 pandemic on banks' profitability and financial stability. It would be interesting to investigate how banks can adapt and evolve their business models to better cope with future pandemics or crises. Additionally, research could be conducted on the role of technology and digital transformation in improving banks' profitability during crises. Further investigation into the impact of government policies and interventions on the performance of banks during crises would also be valuable. Finally, future studies could also examine the impact of the pandemic on customer behavior and how this may have affected banks' profitability

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APPENDIX

Acronym	Definition	Formula
NPL	Non-performing loans, which are loans that are in default or close to default.	NPL ratio = (Non-performing loans / Total loans) x 100%
CAR	Capital adequacy ratio, which measures a bank's ability to absorb potential losses.	CAR = (Tier 1 Capital + Tier 2 Capital) / Risk-weighted assets
TORatio	Total operating ratio, which indicates a bank's efficiency in managing its expenses.	TORatio = (Total operating expenses / Total operating income) x 100%
EPS	Earnings per share, which represents a bank's profit divided by the number of outstanding shares.	EPS = (Net income - Preferred dividends) / Weighted average common shares outstanding

PER	Price-to-earnings ratio, which compares a bank's stock price to its earnings per share.	PER = Market price per share / Earnings per share
Yield	Yield, which is the return on a bank's investment, typically expressed as a percentage.	Yield = (Interest income / Average earning assets) x 100%
DE	Debt-to-equity ratio, which measures a bank's leverage by comparing its total debt to its shareholder equity.	DE ratio = Total liabilities / Shareholders' equity
PTB	Price-to-book ratio, which compares a bank's stock price to its book value per share.	PTB = Market price per share / Book value per share
ROA	Return on assets, which measures a bank's profitability relative to its total assets.	ROA = Net income / Total assets
ROE	Return on equity, which measures a bank's profitability relative to its shareholder equity.	ROE = Net income / Shareholders' equity
Interest Ratio	Interest ratio, which compares the amount of interest income a bank earns to the amount of interest it pays out.	Interest ratio = Interest income / Interest expense
NI Ratio	Net income ratio, which compares a bank's net income to its revenue.	NI ratio = Net income / Total revenue
Income Ratio	Income ratio, which compares a bank's net income to its operating revenue.	Income ratio = Net income / Operating revenue

Source: Prepared by the author (2023).