



The Relationship between COVID-19 Pandemic, Healthcare System, Corporate Governance and Firm Performance in Developing Countries: An Empirical Analysis

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Abstract

The purpose of this study is to examine the actual consequences of the COVID-19-related shocks in terms of supply disruption, halted production, and uncertainty. The goal is to investigate if COVID-19 has a negative impact on company performance and quantify the degree of the effect by performing a quantitative methodology based on a set of data from 30 Tunisian financial institutions between 2019 and 2020. The sample covers firm-level accounting data from financial institution annual reports from 2019-2020, complemented with data on cumulative cases and new cases of COVID-19 from the World Health Organization (WHO). Results show that increasing healthcare spending is useful in mitigating the negative effects of COVID-19. Second, pandemics have less of an impact on firms in nations with higher levels of financial development. Third, improved institutional quality in terms of accountability, government effectiveness, regulatory quality, and the rule of law assists companies in navigating the COVID-19 downturn. Finally, avoiding ambiguity exacerbates COVID-19's negative impact.

Keywords: Corporate Governance, Financial Development, Firm Performance, Healthcare System, Pandemic.

JEL Classification: M14.

1. Introduction

The novel Coronavirus (COVID-19) pandemic caused a major surge in uncertainty and had far-reaching consequences for healthcare, population movement, and economic growth (Baker et al., 2020). The majority of research on COVID-19 focuses on the impact of the pandemic on financial markets, such as stock market volatility (Narayan and Phan, 2020; Baek et al., 2020), liquidity

(Just and Echaust, 2020) and firm returns (Narayan et al., 2020; Shen et al., 2020). However, the firm-level study of the actual effect of COVID-19 is limited, owing to data constraints. It's important to look into how a major public health crisis affects operating performance.

The purpose of this study is to examine the actual consequences of the COVID-19-related shocks in terms of supply disruption, halted production, and uncertainty. The goal is to investigate if COVID-19 has a negative impact on company performance and quantify the degree of the effect.

The sample covers firm-level accounting data from financial institution annual reports from 2019-2020, complemented with data on cumulative cases and new cases of COVID-19 from the World Health Organization (WHO). In the baseline regression, we show that companies' return on assets (ROA) is adversely related to the severity of the COVID-19 pandemic, as assessed by cumulative or new cases. As a result, the negative impact of the COVID-19 pandemic on corporate performance is affected by country-specific characteristics is investigated.

First, results show that increasing healthcare spending is useful in mitigating the negative effects of COVID-19. Second, pandemics have less of an impact on firms in nations with higher levels of financial development. Third, improved institutional quality in terms of accountability, government effectiveness, regulatory quality, and the rule of law assists companies in navigating the COVID-19 downturn. Finally, avoiding ambiguity exacerbates COVID-19's negative impact.

Our work contributes to the expanding body of research on the implications of COVID-19 on the actual economy. First, the majority of empirical research was undertaken shortly after the COVID-19 epidemic began. Stock returns were the sole known measure of company success at the time (Ding et al., 2020; Fahlenbrach et al., 2020; Hassan et al., 2020).

The rest of this article is organized as follows. Section 1 shows the different literature reviews of the subject. Section 2 describes our data sources and our econometric strategy. Section 3 gives baseline findings and expands on cross-country variation by examining country-specific healthcare systems, financial development, governance, and uncertainty avoidance. Section 4 finishes this research with a discussion of its key findings and its implications.

2. Literature Review

While academics indicate that it is too early to quantify the real effects of Coronavirus, there has been an increase in the number of published papers

addressing the impact of this pandemic in management, finance, and economic-related sectors.

The Coronavirus pandemic has had an impact on supply chains (Sharma et al., 2020), corporate solvency (Mirza et al., 2020), demand-supply (Liu et al., 2020), cash holdings (Qin et al., 2020), leverage (Slater, 2020), technology readiness (Sharma et al., 2020), and firm performance. However, little emphasis has been paid to the impact of the Coronavirus crisis on corporate governance and organizational financial and operational outcomes.

The link between corporate governance and company performance has been extensively studied in the literature (Guney et al., 2020; Khatib et al., 2020). According to agency literature, the governance feature of monitoring and advising responsibilities in terms of supervising and directing management actions improves company performance in a variety of ways, including agency cost reduction (Jensen and Meckling, 1976).

Khatib et al. (2020) underlined corporate governance's policy-making function, stating that directors influence business performance through policy formulation. Aside from these functions, the COVID-19 crisis emphasized the board's monitoring responsibility in lowering the uncertainty risk that was followed by the COVID-19 crisis.

Croci et al. (2020) suggested that its structure, makeup, and features, as well as the directors' backgrounds and competence, determine the extent and efficacy of the board's actions. As a result, some boards may reconsider existing arrangements and be nimbler in determining which portions of the conventional board agenda may be reduced or postponed to allow management to focus on the business' short-term difficulties. Hence, objective evaluations of management performance served as the foundation for effective corporate governance processes. They featured a well-structured board of directors, a high level of openness, and independent and professional internal committees, all of which contributed to increased trust in the bank.

Non-bank company studies validated the advantage of board objectivity, with Broad Stock et al. (2021) discovering that organizations using these governance structures had a reduction in credit risk.

According to Scherer and Voegtlin (2020), these governance systems encouraged enterprises to innovate, resulting in improved financial performance. Certain boards communicated effectively with the external environment during crises because of their ability to build confidence and convey good signals to depositors and other essential stakeholders (Song et al., 2020). Other research, on the other hand, found no substantial and direct influence of corporate governance

structure and qualities on banking industry performance throughout the pandemic era.

Demir and Danisman (2021) conducted a study on 1927 banks from 110 countries during the first four months of 2020 and discovered that governance scores had no meaningful effect on bank returns during the COVID-19 outbreak. These findings are congruent with the findings of Takahashi and Yamada (2021), who investigated the influence of several variables on Japanese stock returns during the COVID-19 epidemic. Other research has revealed that board independence was not a significant performance factor of bank performance throughout the pandemic period (Amore et al., 2020).

The work contributes to the expanding literature on the actual economic implications of COVID-19. First, most of the empirical research was undertaken shortly after the COVID-19 epidemic began. Stock returns were the unique known measure of company success at the time (Ding et al., 2020; Fahlenbrach et al., 2020; Hassan et al., 2020).

2. The Methodology

2.1 Basic Model

We examine the model of the COVID-19 pandemic to determine the negative effects on the company's performance:

$$Performance_{it} = c + \beta_1 COVID19_{it} + \gamma Firm\ controls_{it} + \varepsilon_{it} \quad (1)$$

where i and t denote the institution and the year, respectively. The operating performance (ROA) and operating capital performance are the underlying business performance measures for the year. The logarithm of COVID-19 cumulative cases or the logarithm of COVID-19 new cases in the year in the country where the business is incorporated is used to calculate the COVID-19 main explanatory variable.

As shown below, we have control over several business characteristics. The Firm Size is represented by the logarithm total assets ratio. Leverage is calculated as a percentage of total debt divided by total assets. Tangibility is the percentage of tangible assets (property, plant, and equipment) to total assets. Cash holding is the percentage of cash and short-term investments in total assets. Cash flow is the percentage of operating income before depreciation over total assets.

We extend the following basic model to investigate how country-specific characteristics affect how negatively the COVID-19 pandemic affects business performance:

$$Performance_{it} = c + \beta_1 COVID19_{it} + \beta_2 Country_t + \beta_3 COVID19_{it} + \gamma Firm\ controls_{it} + \varepsilon_{it} \quad (2)$$

We consider a few country-specific factors that could either amplify or mitigate the negative impact of the COVID-19 pandemic. The healthcare system is the first line of defense against a pandemic.

2.2 Data

The World Health Organization (WHO) website, which totalizes daily country-reported data, is where we get information on COVID-19 cumulative cases and new cases. The WHO declared the COVID-19 disease a public health emergency of international concern on January 30, 2020, and it was declared a pandemic on March 11, 2020.

Annual reports are used to compile measurable variables at the financial institution level. We limit the census period from 2019 to the fourth quarter of 2020. Remember that only a few institutions issued financial reports in 2020.

We use the World Development Indicators (WDI) pre-pandemic value of health expenditure (% of GDP) and the logarithm of health expenditure per capita (current US dollars). Second, advanced financial intermediaries and financial markets may be able to absorb pandemic shocks and relieve financial constraints. As a result, we include Credit (domestic credit to the private sector as a percentage of GDP) and Market Cap (stock market capitalization as a percentage of GDP) from WDI. Third, good governance and institutional quality are important in the fight against the pandemic crisis. We incorporate the World Governance Indicators' Voice and Accountability, Governance Effectiveness, Regulatory Quality, and Rule of Law. We take the values of the four governance variables from 2020 once more.

We include a COVID-19 interaction term and country-specific variables in all of the details of the analysis of country heterogeneity. Given our country's 2017 fixed variables for health, financial development, and institutional quality. Our key variable is the interaction coefficient, or β_3 , which reflects the magnitude and significance of the COVID-19 pandemic's impact on firm performance concerning country characteristics.

In 2019 and 2020, 30 financial institutions will be present in Tunisia, according to our list. To reduce the likelihood of erroneous value incidence, all business-level accounting variables have been approved between the 1% and 99% levels. Table 1 contains a detailed definition of the variables.

Table 1. Variables Definition and Corresponding Sources

Variable	Definition	Source
Cumulative Cases	The logarithm of the Number of cumulative COVID-19 cases	WHO
New Cases	The logarithm of the number of new COVID-19 cases	WHO
Cases	Number of COVID-19 cases	WHO
ROA	Return on assets	Annual reports
Firm Size	The Logarithm of total assets	Annual reports
Leverage	Total debt is divided by total assets in percentage.	Annual reports
Tangibility	Tangible assets (property, plant, and equipment) over total assets in percentage	Annual reports
Cash Holding	Cash and short-term investments over total assets in percentage	Annual reports
Cash-Flow	Operating income before depreciation over total assets in percentage	Annual reports
Health Ratio	Current value of health expenditure (% of GDP)	WDI
Health Expenditure	The logarithm of health expenditure per capital (current US\$)	WDI
Credit	Domestic credit to private sector (% of GDP)	WDI
Market Cap	Stock market capitalization (% of GDP)	WDI
Voice and accountability	It captures perceptions of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression, freedom of association, and free media. It ranges from -2.5 (weak) to 2.5 (strong).	WGI
Government effectiveness	It captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. It ranges from -2.5 (weak) to 2.5 (strong).	WGI
Regulatory Quality	It captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. It ranges from -2.5 (weak) to 2.5 (strong).	WGI
Rule of law	It captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. It ranges from -2.5 (weak) to 2.5 (strong).	WGI

Source: Research finding.

3. Regression Analysis

3.1 Descriptive Statistics

Descriptive statistics on dependent, independent, and control variables are summarized in Table 2. The bank's profitability and efficiency are indicated by the average financial performance value. The cumulative case count of 3634.06 ranges from 0.139962 to 17905.7.

The new cases have a mean value of 65.7579, with a range of values ranging from 49.778 to 76.983, which is higher than the average cases, which has a mean value of 39.4796 and a range of values ranging from 7.299 to 120.33. The average value of the health ratio is 6.88856, with values ranging from 6.82099 to 6.95846.

The average health expenditure is 2.37092, with a range of 2.36747 to 2.37426. The cash holding values range from 0.577811 to 0.881560, with a mean of 0.752648. The cash flow values range from -0.004004 to 0.024563, with a mean of 0.0080047. Finally, the size ranges from 4.43362 to 11.2678, with a mean value of 7.002186.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	57	9.11004	14.59434	-0.69216	70.4405
ROA	57	9.09856	2.62451	-8.09959	10.1989
Cumulative cases	57	3634.06	4693.96	0.139962	17905.7
New cases	59	65.7579	6.69001	49.778	76.983
Cases	59	39.4796	21.22023	7.299	120.33
Health ratio	59	6.88856	0.069314	6.82099	6.95846
Health expenditure	59	2.37092	0.003423	2.36747	2.37426
Credit	59	19.7316	3.968208	15.73	23.6
Market cap	59	20.2605	0.097767	20.162	20.3559
Cashholding	59	0.752648	0.068527	0.577811	0.881560
Cash-flow	58	0.0080047	0.006537	-0.004004	0.024563
Voice and ac~y	59	0.264655	0.008348	0.256517	0.273075

government~s	59	-0.15257	0.050909	-0.20391	-.010294
regulatory~y	59	-0.40179	0.036567	-0.43744	-0.36492
Rule of law	59	0.099360	0.037833	0.06248	0.137513
Leverage	57	0.751113	0.825624	0	2
Tangibility	51	0.7024718	0.7769494	0.03279	2
Size	51	7.002186	1.538273	4.43362	11.2678

Source: Research finding, using Stata software.

3.2 The Pearson Correlation Coefficients

Table 3 shows the Pearson correlation coefficients between the variables in our analysis. Correlation coefficients are typically less than 0.8, indicating a low level of correlation between the variables. According to Kennedy (2008), multicollinearity is a serious problem when the correlation is greater than 0.8. Indeed, the correlation matrix suggests that multicollinearity issues in our regressions can be safely ignored.

Table 3. Correlation Matrices

	Roe	Roa	C.se	N.se	Cases	H.r	H.e	C.r	M.c	C.h	C.f	V.a	G.e	R.q	R.l
Roe	1000														
Roa	0.0836	1000													
	0.5363														
C.se	0.113	0.1426	1000												
	0.4015	0.2900													
N.se	0.0629	-0.2471	0.1311	1000											
	0.6420	0.0638	0.3309												
cases	0.2445	0.0980	0.5691	0.1573	1000										
	0.0668	0.4684	0.0000	0.2340											
H.r	0.0107	0.0061	0.0137	0.0223	0.0346	1000									
	0.9371	0.9641	0.9194	0.8669	0.7945										
H.e	-0.0107	-0.0061	-0.0137	-0.0223	-0.0346	-1.0000	1000								
	0.9371	0.9641	0.9194	0.8669	0.7945	0.9371									
C.r	-0.0107	-0.0061	-0.0137	-0.0223	-0.0346	-1.0000	-0.0107	1000							
	0.9371	0.9641	0.9194	0.8669	0.7945	1.0000	0.9371								
M.c	-0.0107	-0.0061	-0.0137	-0.0223	-0.0346	-1.0000	-0.0107	-1.0000	1000						
	0.9371	0.9641	0.9194	0.8669	0.7945	1.0000	0.9371	1.0000							
C.h	-0.1052	0.2090	-0.1708	-0.3875	-0.2193	-0.0116	0.0116	0.0116	0.0116	1000					
	0.4359	0.1187	0.2039	0.0024	0.0952	0.9305	0.9305	0.9305	0.9305						
C.f	0.4400	-0.0419	0.3247	0.2484	0.0405	-0.0692	0.0692	0.0692	0.0692	-0.2946	1000				
	0.0007	0.7594	0.0146	0.0601	0.7628	0.6055	0.6055	0.6055	0.6055	0.0248					
V.a	0.0107	0.0061	0.0137	0.0223	0.0346	1.0000	-1.0000	-1.0000	-1.0000	-0.0116	-0.0692	1000			
	0.9371	0.9641	0.9194	0.8669	0.7945	0.0000	1.0000	0.0000	1.0000	0.9305	0.6055				
G.e	-0.0107	-0.0061	-0.0137	-0.0223	-0.0346	-1.0000	1.0000	1.0000	1.0000	0.0116	0.0692	-1.0000	1000		
	0.9371	0.9641	0.9194	0.8669	0.7945	1.0000	0.0000	0.0000	0.0000	0.9305	0.6055	1.0000			
R.q	0.0107	0.0061	0.0137	0.0223	0.0346	1.0000	-1.0000	-1.0000	-1.0000	-0.0116	-0.0692	1.0000	-1.0000	1000	
	0.9371	0.9641	0.9194	0.8669	0.7945	0.0000	1.0000	0.0000	1.0000	0.9305	0.6055	0.0000	1.0000		
R.l	0.0107	0.0061	0.0137	0.0223	0.0346	1.0000	-1.0000	-1.0000	-1.0000	-0.0116	-0.0692	1.0000	-1.0000	1.0000	1000
	0.9371	0.9641	0.9194	0.8669	0.7945	0.0000	0.0000	0.0000	0.0000	0.9305	0.6055	0.0000	1.0000	0.0000	

Source: Research finding, using Stata software.

3.3 Empirical Results

3.3.1 Baseline

The COVID-19 pandemic could have a devastating impact on business performance due to both supply and demand (Guerrieri et al. 2020). On the one hand, several governments have responded by instituting quarantine policies and even incarceration to halt the spread of COVID-19. Businesses that were deemed unnecessary have closed down around the world, disrupting supply chains, manufacturing has ceased, and many employees have been told to stay at home.

In the worst-case scenario, the pandemic could cause significant financial distress and failure for a large number of small and medium-sized businesses. The COVID-19 pandemic resulted in a significant decrease in supply. As a result, corporate earnings have fallen. Furthermore, demand for the COVID-19 has decreased. As a result of the disease's spread, businesses in the service sector, such as airlines, restaurants, and travel agencies, have seen a decrease in customers. Increased unemployment and income losses are reducing workers' purchasing power in struggling industries. Furthermore, uncertainty and pessimism may dampen unaffected workers' desire to consume. Additionally, Guerrieri et al. (2020) argue that demand may overreact to a supply shortage, potentially triggering a deflationary recession. Without a doubt, the firm wage should fall during the pandemic.

Table 4. Baseline Regression

	(1)	(2)	(3)	(4)
	ROA	ROA	ROE	ROE
Cumulative cases	-0.000119* (-0.87)		-0.000489* (0.55)	
New cases		-0.0885* (-1.76)		-0.319* (-0.95)
Size	-0.473* (-1.43)	-0.262 (-1.22)	-1.137** (0.52)	-0.235 (0.16)
Leverage	-0.127 (-0.30)	0.112 (0.25)	4.650 (1.64)	5.581* (1.88)
Tangibility	-0.894** (1.97)	0.613* (1.42)	-1.485* (-0.50)	-1.591* (-0.55)
Cashholding	5.576 (1.06)	3.281 (0.64)	44.77 (1.30)	42.34 (1.23)
Cash flow	-27.74* (0.50)	38.38** (0.71)	1126.9*** (3.06)	1259.8*** (3.46)
_cons	-0.198 (-0.04)	5.451 (0.97)	-45.16 (-1.54)	-16.40 (-0.43)
N	48	48	48	48

Source: Research finding, using Stata software.

Note: This table shows how firm performance responded to the COVID-19 pandemic from 2019 to 2020. The dependent variable is the performance ratio ROA and ROE.

T statistics is reported below coefficients in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

N: Number of observation

Table 4 displays the results of the reference regression. The base regression with the cumulative case logarithm as the explanatory variable is shown in the first column.

ROA and ROE are found to be negatively related to cumulative cases, which is statistically significant at the 10% level. This implies that as the number of cumulative cases increases, the average ROA of businesses decreases. The economic plan is also affected significantly. Given that the explanation variable is a logarithm, the estimated coefficient of 0.19 implies that if cumulative cases increase by 10%, the business's ROA will decrease by 1.9%. Aside from the fact that the ROE's median sample percentage is 4.8%, a drop of this magnitude is reasonable. As a change, we will calculate the pandemic using the logarithm of the new cases.

The column 2 regression equivalent also shows a negative correlation between new cases and ROA, which is statistically significant at the 1% level.

Finally, regressions using cumulative cases and new cases show that the COVID-19 pandemic has an impact on businesses and has a negative impact on their performance.

3.3.2 Country Heterogeneity

3.3.2.1 Healthcare System Impact

Because the COVID-19 pandemic is a public health disaster by definition, health systems play a key role in battling sickness and restoring prosperity. Countries with robust health systems and enough health-spending budgets are less vulnerable to low labor force participation, supply chain and market disruptions, and lockdowns and quarantines.

Lockouts and growing unemployment are also producing major demand shocks for firms. As a result, the company's operations and companies are projected to be less affected in economies with robust healthcare systems.

In this part, we'll look at whether a country's healthcare system protects business performance. In column 1, we continue to look for a negative relationship between the cumulative log cases and the fixed ROA. Furthermore, we control the interplay of cumulative logarithmic cases and Health Ratio. This is defined as healthcare spending (as a percentage of GDP).

The estimated coefficient of interaction is positive and significant at 10%, implying that increased pre-pandemic health spending helps to mitigate the negative effect of the COVID-19 pandemic. In column 2, we change the proxy for the healthcare system's resilience by logging healthcare costs per person. The interaction coefficient remains positive and is now statistically significant at the 5% level.

Our results are affected when the pandemic variable is changed to record new cases. Overall, the positive and significant estimates of the term of interaction between the COVID-19 cases and the health factors in Table 5 suggest that businesses operating in countries with better healthcare systems outperform the pandemic.

Table 5. Healthcare System Impact

	(1)	(2)	(3)	(4)
	ROA	ROA	ROE	ROE
Cumulative cases	-0.000113 (-0.77)	-0.000113 (-0.77)		
New cases raw			-0.206* (-0.64)	-0.206* (-0.64)
Cases	0.975*** (1.02)	-6.903*** (-1.04)	-3.758*** (0.65)	-28.97*** (-0.71)
Cases X Health Ratio	0.144* (-1.04)		0.596* (-0.70)	
Cases X Health Expenditure		2.906* (1.04)		12.07* (0.70)
Size	-0.402 (-1.16)	-0.402 (-1.16)	0.427 (0.30)	0.427 (0.30)
Leverage	0.165 (0.33)	0.165 (0.33)	7.831** (2.52)	7.831** (2.52)
Tangibility	1.177** (2.22)	1.177** (2.22)	0.558 (0.17)	0.558 (0.17)
Cashholding	5.902 (1.06)	5.902 (1.06)	30.80 (0.92)	30.80 (0.92)
Cash flow	6.082 (0.10)	6.082 (0.10)	958.4** (2.61)	958.4** (2.61)
_cons	-0.699 (-0.15)	-0.699 (-0.15)	-4.575 (-0.12)	-4.576 (-0.12)
N	48	48	48	48

Source: Research finding, using Stata software.

Note: This table shows how the health system before 2020 affected firm performance in response to the COVID-19 pandemic from 2019 to 2020. The dependent variable is the performance ratio ROA and ROE.

T statistics are reported below coefficients in parentheses.

***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

3.3.2.2 Financial Development Impact

This part investigates whether advanced financial intermediaries and financial markets contribute to the unfavorable COVID-19. Although business financing was rarely mentioned, it appears to be a top priority for many businesses beginning in 2020. (Hassan et al. 2020). Companies in the most affected countries are vulnerable to less financial flexibility and rising capital costs, resulting in lower-than-expected performance (Goodell, 2020).

Financial development has been confirmed as a means of easing financial constraints and promoting economic growth (Chong and Ongena, 2013). As a result, we anticipate that financial development in financial intermediation and

markets will reduce the negative impact of a global crisis on business performance.

In column 1 of Table 6, we continue to look for a negative relationship between the cumulative log cases and the fixed ROA. Moreover, we monitor the relationship between cumulative logarithmic cases and internal credit in the private sector (% of GDP). The estimated coefficient of interaction is positive and significant at 1%, implying that a developed banking sector contributes to mitigating the negative effects of the COVID-19 pandemic. This echoes Li et al. (2020)'s assessment that businesses have attracted large sums of money from existing credit lines and loan commitments, while American banks are ready to meet liquidity demands.

In column 2, we replace the stock market capitalization proxy for financial development to GDP. The interaction term's coefficient stays positive and is now statistically significant at the 1% level.

When we change the pandemic variable to log new instances, our findings remain unchanged. Our estimates lose statistical significance when we include the interplay of new cases and credit to GDP. In a nutshell, the positive and substantial estimates of the interaction term of COVID-19 cases and financial development in Table 6 demonstrate that enterprises operating in countries with a stronger financial system do better during the pandemic.

Table 6. Financial Development Impact

	(1)	(2)	(3)	(4)
	ROA	ROA	ROE	ROE
Cumulative cases	-0.000113 (-0.77)	-0.000113 (-0.77)		
New cases			-0.206 (-0.64)	-0.206 (-0.64)
Cases	-0.0634** (-1.18)	-2.075** (-1.04)	-0.555** (-1.66)	-8.914*** (-0.73)
Cases X Credit	0.00251** (1.04)		0.0104** (0.70)	
Cases X Market Cap		0.102* (1.04)		0.423* (0.70)
Size	-0.402 (-1.16)	-0.402 (-1.16)	0.427 (0.30)	0.427 (0.30)
Leverage	0.165 (0.33)	0.165 (0.33)	7.831** (2.52)	7.831** (2.52)
Tangibility	1.177** (2.22)	1.177** (2.22)	0.558 (0.17)	0.558 (0.17)
Cashholding	5.902 (1.06)	5.902 (1.06)	30.80 (0.92)	30.80 (0.92)
Cash flow	6.082 (0.10)	6.082 (0.10)	958.4** (2.61)	958.4** (2.61)

_Cons	-0.699 (-0.15)	-0.699 (-0.15)	-4.575 (-0.12)	-4.575 (-0.12)
N	48	48	48	48

Source: Research finding, using Stata software.

Note: This table shows how financial development before 2020 affected firm performance in response to the COVID-19 pandemic from 2019 to 2020. The dependent variable is the performance ratio ROA and ROE.

T statistics are reported below coefficients in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

3.3.2.3 Corporate Governance Impact

In this part, we will investigate whether good governance and institutions mitigate the destructive effects of Covid-19. Good governance is critical in responding to a global catastrophe. On the one hand, well-functioning institutions and good governance have been critical in combating the spread and effects of Covid-19. Without skilled and accountable governments, effective control of the COVID-19 pandemic and economic recovery would remain a pipe dream. On the other hand, the law and institutions shape financial arrangements and have an indirect impact on business performance during a crisis (Qian and Strahan, 2007; Bae and Goyal, 2009).

In the first four columns of Table 7, we continue to look for a negative relationship between the cumulative log cases and the ROA. Furthermore, we include the phrase "interaction of cumulative logarithmic cases" and four distinct indicators for institutional quality, namely the voice and responsibility in column 1, government effectiveness in column 2, regulatory quality in column 3, and legal rule in column 4. The estimated coefficients of interaction terms are positive and statistically significant, implying that better governance aids in mitigating the negative effects of the COVID-19 pandemic. We will continue to look for positive estimations for interaction terms in the four final columns after changing the pandemic variable to record new cases. Moreover, statistical significance improves to 1%. To summarize, the positive and significant estimations of the word "interaction" between the COVID-19 cases and the governance factors in Table 7 Confirm that businesses that operate in a country with better governance and institutions benefit more from the pandemic.

Table 7. Corporate Governance Impact

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ROA	ROA	ROA	ROA	ROE	ROE	ROE	ROE
Cumulative cases raw	-0.000113 (-0.77)	-0.000113 (-0.77)	-0.000113 (-0.77)	-0.000113 (-0.77)				
New cases raw					-0.206 (-0.64)	-0.206 (-0.64)	-0.206 (-0.64)	-0.206 (-0.64)
Cases	-0.301 (0.99)	-0.0159 (0.45)	-0.123 (-1.13)	-0.0122 (0.37)	-0.961 (0.52)	-0.225 (-1.10)	-0.803 (-1.19)	-0.241 (-1.27)
Cases X Voice and Accountability	1.191* (-1.04)				4.951** (-0.70)			
Cases X Government Effectiveness		0.195** (1.04)				0.812** (0.70)		
Cases X Regulatory Quality			0.272** (-1.04)				1.130* (-0.70)	
Cases X Rule of law				-0.263* (-1.04)				1.092** (-0.70)
<i>N</i>	48	48	48	48	48	48	48	48

Source: Research finding, using Stata software.

Note: This table shows how corporate governance and institutions before 2020 affected firm performance in response to the COVID-19 pandemic from 2019 to 2020. The dependent variable is the performance ratio ROA and ROE.

T statistics are reported below coefficients in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

4. Conclusion and Managerial Implication

The current paper explores the COVID-19 affects company performance by measuring and reporting this significant increase in the economy.

The findings are drawn based on quarterly data from 30 financial institutions in the period from 2019 to 2020. First, firm ROA is negatively related to cumulative cases, implying that as cumulative instances increase, average corporate performance declines. The economic impact is also significant. Second, the results show that enterprises operating in a nation with a stronger healthcare system, financial system, and governance may prosper in the face of the epidemic.

This research adds to previous and ongoing research on the implications of the COVID-19 epidemic on financial markets and the real economy. Our findings provide a novel perspective on the influence of a pandemic on asset returns and volatility since company performance is crucial to asset performance in equities and debt markets. Furthermore, the international context and cross-country comparison have important policy consequences. First, a strong healthcare system, a sophisticated financial system, and high-quality institutions and governance help enterprises withstand a crisis.

The study presents some limitations. First, the intensity of the pandemic may be affected by country-specific policies or activities, and the assessment of COVID-19 cases may be susceptible to the typical endogeneity problem. Moreover, based on the sample period which presents the initial wave of COVID-19 dissemination, the measurement is less tainted by government policy involvement and more accurately reflects the exogenous nature of virus distribution and transmission. Second, even if we are aware of the underlying channels, we are unable to correctly separate the supply shock from the demand shock in the empirical study. Instead, we use an international approach and concentrate on cross-country comparisons. Nonetheless, our estimations might be taken as representing the true consequences of the COVID-19 pandemic on companies and implying that the effects could be considerable and diverse among nations.

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