

Did COVID-19 Affect the Profitability of Turkish Commercial Banks? Evidence from Panel Data

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Abstract

The COVID-19 crisis started as a health emergency and soon caused major economic disruptions that affected the global economy and many business sectors worldwide. The banking sector felt the effects of fiscal and monetary policies that authorities put in place to stop businesses from closing and keep markets stable. Thus, this study tries to measure how the COVID-19 pandemic has an impact on the profits of 15 Turkish commercial banks, using COVID-19 as a dummy variable, and covering the period from 2015 to 2024. Based on the Hausman test result ($P = 0.83$) which is greater than 0.05, the random effects model was found better to be better fit for the analysis. The results of pooled OLS and random effects model were also included for comparison purposes. The analysis results revealed that there is no statistically significant impact of the COVID-19 pandemic on bank profitability, as the COVID-19 dummy remains insignificant, with $p = 0.834$ and $p = 0.799$ in the pooled OLS and random-effects models, respectively.

Keywords: COVID-19 pandemic, Bank profitability, Turkish commercial banks, Random effects model

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1. Introduction

Banks operate their financial activities primarily through their lending approach together with their liquidity control and capital configuration and risk management systems (Berger & Bowman, 2014). The lending approach keeps profitability through credit risk control which involves handling interest rates and maturity periods and collateral requirements; liquidity management creates a protective system against sudden cash needs through maintaining adequate liquid assets for covering short-term debts. Banks should handle their debt and equity ratios effectively to reach regulatory capital-adequacy standards for their capital structure. The risk management framework that supports these processes integrates systems which measure and observe and control market, credit and operational risks (Choudhry, 2022).

Throughout history financial crises have led to significant declines in banks' performance indicators. After the 2001 crisis Türkiye implemented restructuring programs which strengthened capital-adequacy and liquidity regulations to develop more resilient banks (Dufour and Orhangazi, 2009). The 2007– 2009 Global Financial Crisis resulted in using too many short-term funding sources and lacking enough capital buffers which caused liquidity problems that disturbed asset-liability matching while forcing additional provisioning (Allen & Carletti, 2010).

The COVID-19 pandemic resulted in a worldwide economic slowdown together with supply chain problems and extreme financial market fluctuations; global economic output fell by 3.5 % during 2020 but Türkiye achieved 1.8 % growth through its fiscal and monetary intervention (IMF, 2020; World Bank, 2021). Türkiye experienced rising inflationary pressures together with increasing public debt levels and unstable credit volume during 2020 according to World Bank data. The uncertain conditions strongly influenced the loan interest rates banks charged and their liquidity choices and level of risk tolerance (IMF, 2020).

The COVID-19 pandemic affected the performance of financial and banking institutions and caused capital market uncertainty to rise which led investors to develop a negative outlook about the market (Ma et al., 2022; Wastuti & Hasan, 2022). The surge in digital banking usage caused banks to transform their cost structures and customer interaction processes throughout the crisis period. The pandemic brought about a new situation which forced governments to work with central banks through multiple fiscal and monetary policy measures to protect financial stability and promote economic recovery (Kunt et al., 2021; Mazur et al., 2020).

Banks need to serve as economic solutions by delivering essential capital resources to governments and their citizens and business organizations. The financial performance of banks during market uncertainty splits into two different paths which either show stability or decline. On one hand, banks may be resilient and withstand shocks caused by the COVID-19 pandemic due to precautionary measures which are taken to prepare for challenging and diverse future circumstances (Elnahass et al., 2021). Banks face a decline in performance when interest rates decrease because this leads to lower loan and investment returns and higher non-performing loans and liquidity shortages (Barua and Barua, 2021). Banks encountered a dual challenge of dealing with credit demand variations while safeguarding their liquidity reserves and capital protection during the post-pandemic period. The quick transformation towards fee-based revenue streams together with digital banking channels played a crucial role in preventing declines in the return on assets (ROA). The reason behind using return on assets (ROA) as key indicators to evaluate bank profitability is that it is among the most widely applied measures in banking profitability analysis, as it assesses the efficiency with which banks use their total assets (European Central Bank, 2009; Berger & Bouwman, 2014; Khrawish, 2011, p. 21).

2. Literature Review

Le et al, (2025) used the system generalized method of moments (GMM) to analyze how the COVID-19 pandemic affected bank performance and how diversification in lending, income, and geography moderated this effect, using a sample of 121 banks operating in different countries over the period from 2016 to 2021. The results concluded that COVID-19 has a significant negative effect on banking performance, but that greater diversification significantly mitigates the downturn. Thus, banks that had more diversified income streams or geographic/lending diversification were relatively more resilient in the pandemic shock.

Alkhazali et al (2024) examined 819 banks across 26 countries during the 2019–2020 period using panel regression to investigate how bank capital held prior to and at the onset of pandemic affected bank profitability during the COVID-19 pandemic. The results revealed that better profitability during the pandemic period was observed in banks that held higher quality capital rather than just higher leverage. The study emphasized that capital quality is more significant than quantity in absorbing systemic shocks, making it highly relevant to your focus on equity composition and solvency.

Peerbhai & Kunjal (2024) applied random and fixed effect regression models to six Southern African banks listed on the Johannesburg Stock Exchange between 2020 and 2022 to investigate the effect of COVID-19 on both return on assets and return on equity. The authors found that COVID-19 caused major negative impacts to both ROA and ROE. The study results demonstrated that bank operations showed greater weaknesses than market reactions and stressed the requirement for banks to keep liquidity reserves and profitability margins during pandemic uncertainty.

Abdulqadir et al (2023) used a fixed effect panel regression model to study seven private banks in Türkiye throughout 2011-2012 for analysing bank performance drivers during the COVID-19 pandemic. The authors discovered that both the COVID-19 outbreak and the Turkish lira's depreciation created major adverse effects on bank profitability. The study discovered that banks which diversified their income sources and increased their lending operations achieved better financial performance because these strategies enabled them to handle the pandemic's challenges more successfully.

Alqahtani et al (2023) analyzed 575 banks from 20 MENA countries to determine how market concentration and efficiency influenced bank performance during the COVID-19 pandemic. Their panel analysis revealed that more efficient and highly concentrated banking markets were better able to maintain stability and profitability during the pandemic. The authors explained that banks which dominate the market achieve this position because they can manage risks better and achieve cost reductions through their larger operational scale. The study results showed that the structural elements of banking markets, which include market competition and operational performance, directly affect how banks handle pandemic situations.

Gazi et al (2022) conducted an evaluation of 26 different private commercial banks operating in Bangladesh from 2010 to 2021 to investigate how COVID-19 influenced their financial performance by applying CAMELS method and fixed-effect panel regression, the study revealed that bank profitability sharply decreased during 2020–2021 compared to levels recorded before the pandemic. The number of non-performing loans (NPLs) increased dramatically while banks experienced reduced profitability as they worked to maintain capital adequacy during stressful conditions. The authors observed that the banking system in Bangladesh revealed its fundamental issues regarding capital and asset-quality through stress indicators during the COVID-19 pandemic, despite relief measures implemented by regulators.

Elnahass, Trinh, and Li (2021) expanded this perspective to a comprehensive sample of 1,090 banks from 116 countries, assessing how COVID-19 affected global banking stability using quarterly data for 2019–2020. Employing panel regressions on both accounting and market indicators, they found that the pandemic significantly reduced profitability and increased risk exposure, including default, liquidity, and asset risks. The deterioration was on global level but more seen in emerging economies and among smaller, less diversified banks. Banks that function within stable institutional environments or maintain diverse business operations demonstrate improved resistance to economic shocks. The research results supported the idea that financial stability during pandemics depends on effective regulation and strong capital bases and well-developed institutional systems.

Katusiime (2021) studied the effect of COVID-19 on banking profitability in low-income countries through his research on Uganda. The study analysed quarterly data from 2000 to 2021 with an ARDL cointegration framework to achieve its goals. The study results show that COVID-19 caused a permanent decrease in bank profitability which includes ROA and ROE and NIM when considering GDP growth and inflation rates. The pandemic resulted in permanent drops in profitability because of credit growth restrictions and higher provision requirements and worsening economic conditions. The research showed that Ugandan banks' profits dropped because of external financial linkages and not operational problems which means developing financial systems need counter-cyclical buffers.

Demirgüç et al (2021) conducted one of the earliest global analyses of the COVID-19 shock on the banking sector, examining 896 banks across 52 countries during the first months of the pandemic (March–April 2020). The event-study methods was employed to analyse bank stock returns which demonstrated that banks experienced worse performance than their domestic market counterparts and non-financial companies during the pandemic outbreak. The severity of the decline varied across bank size, liquidity, and country policy responses. The market responded positively to liquidity-support programs and borrower-assistance schemes but investors in fiscally constrained countries showed negative reactions to prudential-tightening measures. The study showed banks' ability to withstand crises depended on their existing financial strength and their ability to create national policies which demonstrated the importance of liquidity and capital buffers during times of crisis.

Obeidat et al (2021) conducted research on Jordanian banks by studying their listed banks from 2018 to 2020 with a Seemingly Unrelated Regression (SUR) model which simultaneously evaluated ROA and NIM. The research findings showed that the COVID-19 pandemic caused financial losses to both profitability measures because banks experienced lower interest income and increasing operational costs. The research revealed that Jordanian banks maintained good capital levels yet encountered operational difficulties and shrinking profit margins throughout the crisis which showed they needed to expand their operations and modernize their systems.

Dursun-de Neef and Schandlbauer (2021) examined European bank lending behavior during the first pandemic wave in 2020, relating lending growth to local COVID exposure and capitalization levels. Better-capitalized banks showed the ability to maintain or boost their lending levels but weaker banks needed to reduce their credit offerings. The study results showed that capital adequacy and solvency levels determine banks' capacity to support the real economy during crises because financial strength serves as the primary factor for shock absorption.

3. The Conceptual and Theoretical Framework

The pandemic creates multiple financial effects through different pathways which decrease business and household earnings that result in loan payment difficulties and boost non-performing loans and loan-loss provisions and banks experience revenue and operating cost changes because of shifting credit demand and interest rate and fee-based transaction patterns. The theoretical explanation is grounded in financial intermediation and credit risk thinking: when uncertainty rises and borrower quality deteriorates, banks face greater information problems and higher expected losses, which can reduce profitability measures such as return on assets and return on equity (Beck & Keil, 2022; Boot, 2000) The assumptions of the article as a below:

H_0 : The pandemic does not influence Turkish commercial banks' profits in a major way because banks and policy measures handle the economic shock.

H_1 : The pandemic creates substantial alterations in profitability through credit risk effects and margin pressure and cost shifts and policy-related banking changes.

4. Data and Methodology

4.1 The Sample of the Study and Data Definition

The study examines data for 15 commercial banks from 2015 to 2024, covering six years before and after the pandemic, and three years during it. The analysis of the impact of COVID-19 on profitability was conducted by incorporating both financial ratios and macroeconomic variables into the econometric model. Table 1 shows the exact financial ratios that were used in this analysis. The analysis of these ratios came from the study of combined balance sheets and financial documents of the banking institutions. The research obtained macroeconomic data from official Turkish government sources which include the Turkish Statistical Institute (TÜİK) and the Central Bank of the Republic of Türkiye. According to Petria et al (2015), the Current Ratio (Current Assets to Total Assets) indicates a bank's liquidity position which shows its capacity to handle immediate financial obligations. The Loans-to-Assets Ratio shows what percentage of earning assets banks use to transform deposits into revenue-producing loans while maintaining credit risk control (Dietrich & Wanzenried, 2011). The natural logarithm of total assets serves as a standard measurement to determine bank size which shows how economies of scale operate because bigger banks maintain multiple business operations that generate higher profits (Athanasoglou et al., 2008). The Tier 1 Capital Ratio functions as a financial metric to assess capital strength and solvency levels which protects against losses and satisfies regulatory requirements (Al-Matari et al., 2023).

Table 1. The financial ratios used in the study

Variable	Definition	Code
Dependent variables		
Return on assets	Net profit after tax/Total assets	ROA
Independent variables		
Current Ratio	Current Assets / Current Liabilities	CR
Current Asset to total Assets	Current Assets / Total assets	CATA
Loans to asset Ratio	Loans / Total assets	LTA
Bank Size	Natural logarithms of total asset	BS
Tier 1	(Risk-Weighted Assets Tier 1 Capital)×100	Tier 1
Total Deposits	Natural logarithm of total deposits	TD
GDPPC	Gross Domestic Product per capita	GDPG
Inflation	Consumer price index	INF
COVID-19 pandemic	Dummy variable	COVID-19

The total deposits amount shows how stable the funding base is and how much trust customers have, which affects both bank profitability and lending power. The macroeconomic indicator GDP per capita (GDPPC) shows economic development which boosts borrowing needs and debt payment ability, yet Inflation creates price fluctuations and interest rate changes and credit default risks (Bilal et al., 2024). The researchers added a COVID-19 pandemic dummy variable to their model because it needed to capture the banking sector's performance changes related to the pandemic's economic disruption (Peerbhai & Kunjal, 2024). The variables together create a complete system which enables banks to assess their profit levels and stability and their ability to withstand various market conditions.

4.2 Econometric Model

The study uses a panel data approach which enables researchers to handle the differences that result from various bank sizes and their operating systems and organizational structures. According to Baltagi (2001) panel data methodology provides better reliability and efficiency and more complete analysis through its combination of horizontal cross-sectional sample units (N) with vertical time series dimensions (T). The analysis of panel data provides better control over individual differences between subjects when compared to time series and cross-sectional data because it includes this control feature that the other two methods lack. The econometric models used are as presented below:

$$ROA = a + a_1 CR + a_2 CATA + a_3 LTA + a_4 BS + a_5 Tier1 + a_6 TD + a_7 GDPPC + a_8 INF + COVID-19 + B_{it}$$

Where Covid-19 represents a dummy variable indicating the period of the COVID-19 pandemic.

5. Analysis and Findings

5.1 Descriptive Statistics

The first step requires a descriptive analysis of the data which helps in data cleaning and prepares the dataset for the main analysis. The descriptive statistics summary appears in Table 2. The descriptive statistics show that Turkish banks exhibit moderate profitability, with an average ROA of 2.4%, indicating efficient earnings relative to assets and equity. The company maintains a balanced asset portfolio because its liquidity ratios (CR = 0.84, CATA = 0.46, LTA = 0.63) demonstrate an equilibrium between current assets and liquid assets and total assets.

Table 2. Descriptive statistics

	ROA	CR	CATA	LTA	BS	Tier 1	TD	GDPG	INF
Mean	0.0239	0.8437	0.4637	0.6330	12.0032	0.1688	13.6803	11.0192	22.4225
Median	0.0166	0.7310	0.4414	0.6397	12.1891	0.1635	12.4918	10.8026	13.8608
Maximum	0.0994	4.2153	2.4272	0.9938	15.1506	0.2722	21.3059	12.6479	64.7700
Minimum	-0.0224	0.0572	0.0844	0.3368	7.5078	0.1310	8.5877	10.1896	7.6658
Std. Dev.	0.0210	0.5304	0.2153	0.0826	1.4538	0.0270	3.2955	0.7619	20.9528
Observations	150	150	150	150	150	150	150	150	150

The bank shows good capital strength through its 0.17 Tier 1 ratio and its total deposits of 13.68 demonstrate strong funding resources. The economic indicators (GDPG \approx 11%, INF \approx 22%) demonstrate an expanding yet inflationary economic environment during the research timeframe.

5.2 Correlation Matrix

The correlation matrix shown in Table 3 indicates that ROA has generally weak relationships with the explanatory variables, with the strongest positive associations appearing for the macroeconomic indicators INF (0.2127) and GDPG (0.1865) followed by a modest link with Tier 1 (0.1454), while the remaining correlations are close to zero (e.g., BS 0.0016, LTA 0.0489) or slightly negative (e.g., TD -0.1364, CR -0.0508, CATA -0.1028).

Table 3. Correlation matrix

	ROA	CR	CATA	LTA	BS	Tier 1	TD	GDPG	INF
ROA	1.0000								
CR	-0.0508	1.0000							
CATA	-0.1028	0.6267	1.0000						
LTA	0.0489	-0.1689	-0.2180	1.0000					
BS	0.0016	0.0766	-0.1904	-0.4540	1.0000				
Tier 1	0.1454	0.1507	0.1284	-0.4496	0.0664	1.0000			
TD	-0.1364	-0.0697	-0.0204	-0.0954	0.2192	0.0883	1.0000		
GDPG	0.1865	0.0763	0.1057	-0.6333	0.4519	0.4811	0.3374	1.0000	
INF	0.2127	0.0505	0.1153	-0.5451	0.3757	0.4171	0.2892	0.6875	1.0000

Among the independent variables, the most pronounced relationship is the positive correlation between CR and CATA (0.6267), indicating that these two measures tend to move together. In contrast, LTA shows its strongest relationships in the negative direction, particularly with GDPG (-0.6333), INF (-0.5451), and also with BS (-0.4540) and Tier 1 (-0.4496), suggesting that higher loan intensity is associated with lower macroeconomic performance and lower capitalization/size measures in the sample.

The macroeconomic variables GDPG and INF are positively correlated (0.6875), reflecting co-movement over time, but still below the common 0.80 rule-of-thumb threshold. Overall, all correlations are within the acceptable range, indicating that multicollinearity is not a concern for regression analysis.

5.3 Unit Root Test

The following step was conducting unit root test for the variables included in the study to ensure the stationary of

the them. The first difference of the variables that are not stationary at level was used to ensure stationarity and valid results of the regression analysis. Im, Pesaran and Levin, Lu, Chu was used to check the stationarity of the variables. Table 4 present the results of the two tests.

Table 4. Unit root test results

Variable	LLC Test (Level)				IPS Test (Level)			
	Intercept		Intercept + Trend		Intercept		Intercept + Trend	
	Stat.	Prob.	Stat.	Prob.	Stat.	Prob.	Stat.	Prob.
ROA	-4.5640	0.0000***	-3.2751	0.0005***	-1.3882	0.0826*	-0.3465	0.0003***
CR	-2.1194	0.0170***	-3.1122	0.0009***	-2.1194	0.0170**	-3.1122	0.0009***
CATA	-6.2192	0.0000***	-8.8188	0.0000***	-1.7918	0.0366**	-2.1392	0.0162**
LTA	4.1511	1.0000	-2.5771	0.2150	5.4569	1.0000	-1.1157	0.1323
1dif LTA	-3.7309	0.0001***	-8.3291	0.0000***	-3.8951	0.0000***	-5.0619	0.0000***
BS	12.0379	1.0000	-0.1226	0.4512	15.7603	1.0000	6.0833	1.0000
1dif BS	0.1376	0.05547*	-5.8303	0.0000***	2.1043	0.09823*	-2.6387	0.0042***
Tier 1	-1.1514	0.01248**	-3.3355	0.0004***	0.4327	0.06674**	-2.2676	0.0117***
TD	15.1968	1.0000	20.0134	1.0000	6.5190	1.0000	1.0607	0.8556
1dif TD	19.5341	0.0237**	4.9907	0.0034***	-3.2022	0.0007***	-4.2060	0.0000***
GDPG	16.4205	0.0000***	11.6059	0.0000***	-2.1811	0.0146**	-1.9248	0.0271**
INF	-4.0545	0.0000***	-10.0575	0.0000***	1.7007	0.0955***	-3.0255	0.0012***

5.4 Selecting the Appropriate Model

Hausman test was employed as shown in Table 5, to identify whether the random effects or fixed effects estimator should be selected. The result indicate that random effects model regression is preferred as $p > 0.05$.

Table 5. Diagnostic tests

Test Name	Model 1 - ROA	
	chibar2 (01)	Prob > Chibar2
Hausman test	4.95	0.8383
Wooldridge test	2.369	0.1461
Pesaran test for cross sectional dependence	0.7349	0.356

The results of Wooldridge test in Table 5 confirm the absence of serial correlation ($p > 0.05$), and the Pesaran tests results also indicate no cross-sectional dependence ($p > 0.05$).

6. Results and Discussion

Across both the pooled OLS and random-effects estimations shown in Table 6, the results are highly consistent in terms of coefficient signs, magnitudes, and statistical significance. The loans-to-assets ratio (LTA) shows a positive and statistically significant association with profitability in both specifications (pooled: $\beta = 0.08378$, $p = 0.016$; random effects: $\beta = 0.07972$, $p = 0.009$), indicating that banks with a greater share of assets allocated to loans tend to report higher ROA. Total deposits (TD) are positively and statistically significantly related to ROA in both specifications (pooled OLS: $\beta = 0.00171$, $p = 0.005$; random effects: $\beta = 0.00169$, $p = 0.001$). This indicates that banks with higher deposit volumes tend to exhibit higher profitability over the sample period, consistent with deposits providing a relatively stable and low-cost source of funding that can support income generation through expanded lending and other earning assets. The similarity of the coefficient across models suggests that the estimated association is robust to controlling for unobserved bank-level heterogeneity via the random-effects framework. Macroeconomic variables are also strongly linked to bank profitability; GDP

growth/per-capita growth (GDPG) is positive and highly significant in both models (pooled: $\beta = 0.05099$, $p < 0.001$; random effects: $\beta = 0.04975$, $p < 0.001$), implying that stronger economic activity supports bank profitability through higher credit demand and improved borrowers' repayment capacity. In contrast, inflation (INF) exhibits a negative and significant effect (pooled: $\beta = -0.00018$, $p = 0.004$; random effects: $\beta = -0.00017$, $p = 0.001$), indicating that rising price levels are associated with weaker ROA, plausibly due to cost pressures, margin compression when repricing is imperfect, and heightened macroeconomic uncertainty.

Table 6. The results of the regressions

	Pooled Model				Random effect Model			
	Coefficient	Std. Err.	t-Statistic	P value	Coefficient	Std. Err.	t-Statistic	P value
CR	0.00023	0.00449	0.05	0.960	0.00029	0.00451	0.06	0.949
CATA	-0.00943	0.01117	-0.84	0.413	-0.00993	0.01115	-0.89	0.373
LTA	0.08378	0.03047	2.75	0.016	0.07972	0.03031	2.63	0.009
BS	-0.00043	0.00127	-0.34	0.740	-0.00051	0.00127	-0.40	0.693
Tier 1	0.11077	0.08167	1.36	0.196	0.11383	0.08143	1.40	0.162
TD	0.00171	0.00051	3.34	0.005	0.00169	0.00052	3.23	0.001
GDPG	0.05099	0.01052	4.85	0.000	0.04975	0.01046	4.76	0.000
INF	-0.00018	0.00005	-3.38	0.004	-0.00017	0.00005	-3.29	0.001
covid	-0.00076	0.00354	-0.21	0.834	-0.00090	0.00353	-0.26	0.799
cons	-0.02681	0.03332	-0.80	0.434	0.02366	0.33439	-0.71	0.479
<i>R</i> ²	0.19				0.19			
Prob > F	0.0000				0.0011			

By comparison, current ratio (CR), current assets in total assets (CATA), bank size (BS), Tier 1 capital, and the COVID dummy do not have any statistically significant effects on return on assets. In particular, the Tier 1 capital ratio is positive in both regressions but remains statistically insignificant at conventional levels. The COVID-19 dummy also carries a negative sign in both models, yet it is not statistically significant, implying that—after controlling for bank-specific balance-sheet indicators and macroeconomic conditions—there is no robust evidence of an average COVID-period effect on ROA in this sample. Overall model fit is similar across approaches ($R^2 = 0.19$ in both), and the joint significance tests indicate that the explanatory variables are collectively significant (pooled Prob > F = 0.0000; random effects Prob > F = 0.0011), reinforcing the relevance of the included bank-level and macroeconomic factors in explaining profitability. The estimated coefficients are broadly consistent with earlier findings in the bank profitability literature. The positive relationship between the loans-to-assets ratio (LTA) and ROA aligns with Abdulqadir et al. (2023). Similarly, the positive and highly significant effect of GDP growth (GDPG) accords with Petria et al (2015) and is consistent with Athanasoglou et al. (2008), who emphasize the pro-cyclical nature of bank profitability in which stronger economic conditions support improved earnings capacity. By contrast, the negative and statistically significant coefficient on inflation (INF) is consistent with the argument that inflation may depress profitability when banks cannot fully or rapidly reprice assets and liabilities and when operating and credit-related costs increase; this direction is also reported by Abdulqadir et al. (2023). Finally, the absence of a statistically significant coefficient on the COVID-19 dummy variable is in line with Katusiime (2021), indicating that, after controlling for bank-specific characteristics and macroeconomic conditions, the pandemic's incremental effect on ROA may be limited in certain settings.

7. Conclusion

The COVID-19 crisis evaluated the financial stability of Turkish commercial banks through combined effects of economic downturns and government interventions which included falling economic activity and rising credit risk and unstable exchange rates alongside strong monetary and credit policies and liquidity assistance and flexible regulations. The standard panel data model (which tracks banks through multiple time periods) uses

ROA to measure profitability. The macroeconomic controls which include GDP growth and inflation rates and exchange rate stability and policy interest rates play a vital role because they determine loan demand and net interest margins and provisioning requirements and trading income in Türkiye's economy which depends heavily on inflation and foreign exchange rates dynamics.

COVID-19 created different levels of impact on Turkish commercial banks because their performance depended on their financial strength and their ability to manage risks and their revenue diversification and their exposure to macroeconomic instability through inflation and exchange rates. The financial results of banks during and after the pandemic period result from the combination of their basic banking elements which include capital and efficiency and credit risk together with the policies implemented during the pandemic and Turkey's overall financial system state.

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