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Original Research Article

The Impact of Current Asset Portfolio on Performance of Selected Iranian Banks

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Banks accumulate assets that require efficient and profitable management to ensure their viability as going concerns. Current asset portfolio management involves strategic asset allocation, diversification, and rebalancing within predetermined limits. In the Iranian economy, commercial banks are central to the financial system, playing a critical role in financial intermediation. This study investigates the impact of various current asset components—including cash balances, interbank deposits, private sector financing, and investments in stocks and other securities, customer demand and savings deposits, and customer term investment deposits — on the performance of selected Iranian banks. The system Generalized Method of Moments (SYS-GMM) was utilized to estimate these relationships. The target population consisted of active Iranian commercial banks with publicly available financial statements. Data were sourced from official financial reports published by independent auditors for the period 2009 to 2024. The first regression model reveals that a bank's Capital Adequacy Ratio (CA) is positively self-regressive, indicating an increase at a similar rate in the subsequent year. While customer investment deposits exhibited a negative effect on CA, interbank deposits, bank cash balances, the volume of facilities extended to the private sector, and Return on Assets (ROA) all demonstrated significant positive effects. The second regression model indicates that a one percent increase in ROA in one period leads to a 0.6 percent increase in the subsequent year. Furthermore, customer demand and Qarz al-Hasana savings deposits, along with the CA ratio, positively influence ROA, whereas banks' investments in stocks and other securities showed a negative effect. Finally, the study concludes with relevant policy recommendations for bank managers.

Keywords: Capital Adequacy Ratio, Rate of Return on Assets, Bank Performance, Iran.
JEL Classification: E42, E51, G32

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1 Introduction

In developing economies, commercial banks serve as the primary operators of the financial system, bearing significant responsibility for financial intermediation. Financial intermediation fundamentally involves connecting economic units with surplus funds (depositors) to those with deficits (borrowers). To ensure their ongoing viability, banks must efficiently and profitably assemble and manage their asset portfolios. Current asset portfolio management is thus crucial, encompassing asset allocation, diversification, and the rebalancing of assets within predetermined limits. Asset allocation specifically involves categorizing a portfolio's holdings into risky and risk-free asset classes. Effective current asset portfolio management enhances banks' liquidity by allowing for the selection of assets readily convertible to cash, thereby increasing the funds available to lenders who play a vital role in economic resource allocation.

Recent literature highlights the importance of risk management in banking. Bhatt et al. (2023) emphasize credit risk management as a key mediator among environmental risks, credit assessment methods, and overall bank performance. Similarly, Gatev and Strahan (2006) note that customer deposits act as a natural buffer against liquidity risk, reinforcing the need for comprehensive liquidity management strategies. The extensive range of activities undertaken by banks since the 1990s, coupled with the explosive development of information technology and e-commerce, has led to significant academic debate regarding their evolving role as intermediaries, liquidity providers, information channels, risk managers, and drivers of innovation (Berger & Humphrey, 1997). Several studies confirm the positive impact of banking network performance on economic growth in developing countries (e.g., Berger & Humphrey, 1997; Dobbs & Hamilton, 2007; Abu-Alkheil et al., 2012).

Within Iran's domestic economy, commercial banks are also key players in the financial system, largely responsible for financial intermediation by linking surplus and deficit deposit units. To maintain their operations as going concerns, these banks must efficiently and profitably manage their asset portfolios. Statistics from the Central Bank of the Islamic Republic of Iran (2023) indicate approximately 19,000 active bank branches in Iran, responsible for at least 90 percent of the nation's economic financing, thus underscoring their critical importance.

However, challenges persist in the Iranian banking sector. Hashemi and Chavoshi (2023), employing a linear regression model, demonstrated that

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credit, operational, liquidity, and market risks significantly impact bank performance, with higher capital adequacy correlating with improved outcomes. The Capital Adequacy Ratio (CA), defined as regulatory capital divided by total risk-weighted assets, is mandated to be at least 8 percent according to Article 6 of the Guidelines for Calculating Regulatory Capital and Capital Adequacy of Credit Institutions by the Central Bank of the Islamic Republic of Iran. Despite this, some Iranian banks exhibit notably low or even negative CA ratios. For instance, Ayandeh Bank reported a CA of -503 percent in 2024, illustrating a precarious financial state. While Figure 1 indicates that approximately 75 percent of the studied banks met the minimum CA requirement during the period, the average capital adequacy ratio stands at a concerning -4.89 percent. This figure is significantly below the Basel-recommended rate of 8% and suggests deficiencies in asset and capital management within Iranian banks. Furthermore, a standard deviation of approximately 60 points to a significant disparity in capital adequacy rates among Iranian banks, necessitating a review by senior managers of the Central Bank to safeguard Iran's monetary and banking stability. Talebi and Solgi (2017) also found a bidirectional relationship between risk and the capital adequacy ratio in their study of Iranian banks. Given these considerations, this study aims to examine the impact of various current asset components, including cash balances, interbank deposits, loans and advances to the private sector, equity investments, and customer deposits, on the performance of selected Iranian banks.

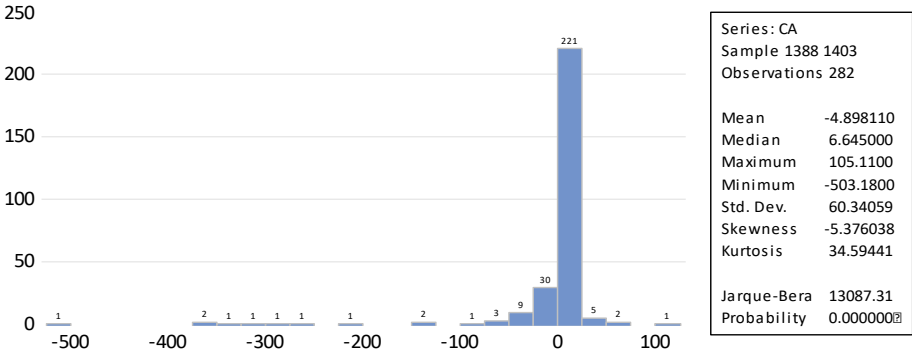

Figure 1. Distribution of CA in the studied Iranian banking network during the period 2009 to 2024
Source: Audited financial statements of the sampled banks

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Recently, several Iranian banks with significantly negative capital adequacy ratios have been liquidated or merged with other institutions. The financing of these banks and the recovery of their assets, both inherently risky processes, impose a substantial financial burden on the acquiring bank, the central bank, and the broader macroeconomic environment. Moreover, when banking sector losses ultimately require central bank intervention, the resulting expansion of the monetary base may contribute to inflationary pressures.

Despite the critical nature of these issues, limited empirical studies have focused on the management of current assets in Iranian banks and its impact on their performance. As illustrated in Figure 1, non-compliance with capital adequacy requirements presents a significant challenge for the Central Bank of Iran in its oversight of commercial banks. Building upon existing theoretical literature and prior research, this study employs the system generalized method of moments (System GMM) to examine the impact of current asset management on the performance of selected Iranian banks. While most domestic and international studies utilize mathematical indicators of efficiency and optimal utilization of production factors to assess performance, this study emphasizes the role of bank resource endowment and its allocation.

The remainder of this paper is organized as follows. Section 2 reviews the theoretical foundations and relevant literature. Section 3 describes the data, variables, and research methodology, including the model specification. Section 4 presents the empirical results and discusses the findings. Finally, Section 5 concludes the study and provides policy implications.

2 Literature Review

2.1 Current Asset Management and Banking Risk Control

Kaviani and Telikani (2023) investigated the impact of bank profitability on economic growth in Iran, with particular emphasis on the role of competition. The study examined 15 banks listed on the Tehran Stock Exchange (TSE), applying a screening method to select the sample. Using data spanning a ten-year period (2012–2022) and employing both OLS and GMM methodologies, the findings revealed that bank profitability exerts a significant positive influence on Iran's economic growth. In a related study, Pourjamshidi et al. (2024) explored the effect of imbalances in the banking system on Iran's economic growth rate, concluding that banks' indebtedness to the central bank had a positive and statistically significant impact during certain periods.

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A stable and efficient financial system is essential, particularly under the volatile economic conditions characteristic of many developing countries. Commercial banks are increasingly adopting innovative strategies—such as cost-cutting measures and diversification of revenue streams—to boost profitability, reduce operational and credit risks, strengthen lending capacity, foster sustainable growth, and extend their business life cycle. The objective of current asset portfolio management is to protect banks against fluctuations in investment returns while optimizing the mobilization and allocation of resources. Markowitz (1999) highlights portfolio diversification—holding a variety of asset classes—as a fundamental approach to risk mitigation.

Banking crises, including the 2008 global financial crisis and the COVID-19 pandemic, have demonstrated the importance of effective risk management in safeguarding liquidity, limiting the rise of non-performing loans, and maintaining repayment capacity under strained economic activity. Recent literature underscores the need for risk management strategies to remain adaptive to changes in both external conditions and business models. Internal determinants such as bank size, operational efficiency, and asset quality, as well as external factors including macroeconomic conditions and digital transformation, shape banking risk management practices. Athanasoglou et al. (2008) found that high credit risk can be associated with elevated net profit margins, whereas lower credit risk reflects superior asset quality and sustainable returns. Proper credit risk management is essential to mitigate the adverse effects of non-performing loans, thereby strengthening stability and profitability (Dang, 2011). Ongore and Kusa (2013) highlighted the pivotal role of operational risk control in ensuring efficiency and stability, while Mikkelson and Partch (2003) demonstrated that maintaining prudent cash balances can act as a hedge against uncertain cash flows.

In recent decades, extensive research has examined banking performance due to its role in investment allocation and its potential to serve as a measure of financial strength and crisis prevention capacity (Tecles & Tabak, 2010). Studies by Sanya and Wolfe (2011) and Perez (2015) confirmed that optimal management of current assets and deposits contributes to risk reduction. Similarly, Oyatoye and Arilesere (2012) argued that structuring asset portfolios to maximize expected returns while minimizing expected risks is central to banking activities, with Sanya and Wolfe (2011) affirming that portfolio diversification can enhance income generation potential.

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2.2 Asset Management and Bank Profitability

Shabani et al. (2024) determined that diversifying asset portfolios directly increases bank profitability. Sargolzaei et al. (2020) emphasized that current asset management and deposit attraction are among the most critical internal factors influencing bank performance. Numerous studies (Healy & Wahlen, 1999; Burgstahler & Dichev, 1997; Chen & Wang, 2011; Duong & Pescetto, 2019; Hill et al., 2019; Dittmar & Mahrt-Smith, 2007; Pinkowitz & Williamson, 2007; Harford et al., 2008) have validated the significant impact of current asset management on banks' profitability and market valuation.

Foundational work by Myers and Majluf (1984) and Pinkowitz & Williamson (2007) suggests that cash holdings enhance firm value by reducing information asymmetry and transaction costs. Bourke (1989) reported a strong positive relationship between liquidity levels and profitability. Following the 2008 crisis, Staikouras et al. (2008) demonstrated that loan volumes correlate with profitability, whereas Valverde & Fernández (2007) found that certain investment decisions can have a detrimental effect on profitability. Gyamerah et al. (2024) showed that the enhancement of internal control systems for managing current assets can significantly improve the performance of banks in Ghana. Sukuk instruments, while offering advantages, face structural complexities compared with conventional bonds, largely due to the shared risk between the lender and borrower (Kashani et al., 2024).

2.3 Capital Adequacy Ratio and Return on Assets in Banking

The Capital Adequacy (CA) ratio—calculated as regulatory capital divided by total risk-weighted assets—serves as a critical measure of a bank's resilience to financial risks and as an indicator of its creditworthiness. A higher CA ratio enhances the bank's capacity to extend credit facilities, as lending entails temporarily transferring capital and assuming default risks. Effective lending risk management requires the maintenance of adequate capital resources to absorb potential losses. Yousefi Ghaleroudkhani et al. (2023), in their analysis of Iranian commercial banks listed on the Tehran Stock Exchange, found that maintaining healthy cash balances strengthens the bank's financial position, thereby improving overall performance and profitability.

2.4 Research Background

Sargolzaei et al. (2020) examined the effect of key financial performance indicators on the profitability of Bank Mellat using the Johansen–Juselius cointegration approach and Vector Error Correction Model (VECM), covering

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data from Q2 2010 to Q2 2018. Their results indicated that, in the long run, the ratios of non−current facilities to total facilities, debt to assets, and term deposits to total assets—alongside the return on assets (ROA)—were negatively associated with profitability. Conversely, the capital adequacy (CA) ratio, the ratio of total net operating income to total assets, and the ratio of facilities granted to total deposits had a positive and significant long−run relationship with ROA. Ramli et al. (2019) analyzed Malaysian and Indonesian financial firms from 1990 to 2010 to assess the impact of investment structure on firm performance, including the mediating effect of leverage. Their results provided evidence of a bidirectional relationship between investment structure determinants and performance: some factors directly enhanced performance, while others—such as asset structure, interest rates, liquidity, non-debt tax shields, and growth opportunities—were indirectly influenced through leverage's effect on performance.

Vuong et al. (2017) investigated the relationship between capital structure and profitability in 739 companies listed on the UK Stock Exchange from 2006 to 2015, applying static panel regression models. They reported a significant negative correlation between long-term debt and ROA, Return on Equity (ROE), and Tobin's Q, while short-term debt showed no significant effect. Similarly, Nguyen et al. (2023) employed OLS estimation to study debt maturity and firm performance in 300 Vietnamese firms for the 2012–2018 period. Their findings revealed that long-term debt negatively impacted profitability, whereas short-term debt had a positive influence. Fajinmi et al. (2023) examined the relationship between current asset management and performance in 24 Nigerian commercial depository banks over 1990–2020. Using the auto-regressive distributed lag (ARDL) model, they estimated short- and long-run dynamics and the speed of adjustment to long-run equilibrium. Their results indicated that current asset management, in its different forms, significantly affected Profit After Tax (PAT), Return on Investment (ROI), Asset Quality (ASQ), and Capital Adequacy (CA). Kashani et al. (2024) investigated the effect of sukuk investments—as a bank financing instrument—on the financial performance of Islamic banks in 16 selected countries using panel data from 2019Q1 to 2022Q3. Their findings showed a negative and significant impact of sukuk investments on financial performance in models where ROE, CA, or ROA served as dependent variables. Conversely, sukuk investments had a positive and significant effect on net profit margin and no significant effect on financing growth. Cheraqhyan et al. (2023), through a case study of Pasargad Bank, confirmed that diversification of banking activities and assets contributes positively to

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bank performance. Similarly, Zarei & Zarei (2018) found that business intelligence improved performance in 30 Iranian banks by enhancing asset portfolio management. Sadat Hoseini (2024) evaluated the effect of financial performance ratios for 17 private Iranian commercial banks on the regulatory CA index during 2015–2022 through a two-stage dynamic panel data model. The results indicated that increases in ROA and the ratio of earning assets positively and significantly enhanced Kheyri et al. (2024), in a study spanning 18 years for 10 Iranian banks, reported that the ratios of cash to total assets and facilities to total assets had negative and significant effects on ROA. Sepehrdoust and Aeini (2013) examined 14 Iranian private and state-owned banks between 2006 and 2010. They found that liquidity and ROA positively and significantly influenced the required CA ratio, whereas bank size, the share of facilities granted, ROE, loan loss reserves, and debt leverage had a negative and significant effect. No significant relationship was observed between deposit share and CA ratio. Finally, Amin Rashti et al. (2021) showed that, within the Iranian banking system, credit risk and ROA directly affected bank size, while financial leverage and liquidity exerted a negative effect on CA ratio.

3 Research Methodology

This study adopts a quantitative research approach with a case study design focusing on the Iranian banking sector. The target population comprises all commercial banks active in the Iranian economy whose audited financial statements are publicly available; hence, no sampling procedure was applied. The primary data source is the official financial reports of the banks, published by independent auditors, covering the financial periods from 2009 to 2024. Statistical data analysis Data analysis is conducted using EViews software for both descriptive statistics and hypothesis testing. All ethical principles—including informed consent, confidentiality, non-harm to participants, and full transparency—are observed throughout the process.

Due to incomplete disclosure and limited transparency among some state-owned banks, full financial statements for these institutions were not consistently accessible. Consequently, the study population comprises the following 19 Iranian banks: Parsian, Saderat, Mellat, Pasargad, Sina, Tejarat, Eghtesad Novin, Mehr-e-Iran, Sarmayeh, Dey, Karafarin, Shahr, Gardeshgari (Tourism), Ayandeh, Saman, Refah, Post Bank, Sanat va Madan (Industry and Mine), and Keshavarzi.

Quantitative data are drawn from financial statements published on the banks' official websites and the Codal database. Guided by the research

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hypotheses and relevant theoretical literature, two key performance indicators—Capital Adequacy Ratio (CA) and Return on Assets (ROA)—are employed to measure bank performance. Adapting the framework from Fajinmi et al. (2023), the following functional relationships are defined:

$$CA_{i,t} = f(CD_{i,t}, DD_{i,t}, FP_{i,t}, INV_{i,t}, LIQ_{i,t}, LPS_{i,t}, ROA_{i,t}) \quad (1)$$

$$ROA_{i,t} = f(CD_{i,t}, DD_{i,t}, FP_{i,t}, INV_{i,t}, LIQ_{i,t}, LPS_{i,t}, CA_{i,t}) \quad (2)$$

Where:

- $CD_{i,t}$: customer investment deposits;
- $DD_{i,t}$: customer demand deposits;
- $FP_{i,t}$: deposits with other commercial banks;
- $INV_{i,t}$: investment in stocks and bonds;
- $LIQ_{i,t}$: liquidity;
- $LPS_{i,t}$: facilities to the private sector.

All variables, except CA and ROA (which are ratio measures and may take negative values), are expressed in million rials.

Since the number of time observations (T=15) is smaller than the cross-sectional dimension (N=19), and panel data contain a lagged dependent variable, the System Generalized Method of Moments (SYS-GMM) estimator is employed. SYS-GMM offers advantages such as accommodating cross-sectional heterogeneity, mitigating bias in fixed-effects panel regressions, improving estimation efficiency, and reducing collinearity. Wooldridge (2001) recommends GMM in the presence of heteroskedasticity, while Arellano and Bover (1995) and Blundell and Bond (1998) highlight its suitability for dynamic panel datasets like those in this study.

The general algebraic form of the GMM model is:

$$Y_t = \alpha + \beta Y_{t-1} + \gamma X_t + \mu + \varepsilon_t \quad (3)$$

In equation (3), Y is the dependent variable, X is a set of independent variables, μ is the individual and fixed effects, and ε is the disturbance component. According to Arellano and Bond (1991), in the GMM model, the discontinuous values of the variables are used as instruments. These two researchers proposed a method in relation to the model estimator that involves eliminating the time-independent fixed effects by taking the first-order difference from equation (3). As a result, equations (4) and (5) are used to examine the factors affecting the performance of the selected banks. Except for two performance indicators (capital adequacy and return on assets, which

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are proportional and also have negative values), other variables are entered into the model in an natural logarithmic form.

$$CA_{i,t} = \beta_0 + \beta_1 CA_{i,t-1} + \beta_2 LCD_{i,t} + \beta_3 LDD_{i,t} + \beta_4 LFP_{i,t} + \beta_5 LINV_{i,t} + \beta_6 LLIQ_{i,t} + \beta_7 LPS_{i,t} + \beta_8 ROA_{i,t} + u_i + \epsilon_{i,t} \quad (4)$$

$$ROA_{i,t} = \beta_0 + \beta_1 ROA_{i,t-1} + \beta_2 LCD_{i,t} + \beta_3 LDD_{i,t} + \beta_4 LFP_{i,t} + \beta_5 LINV_{i,t} + \beta_6 LLIQ_{i,t} + \beta_7 LPS_{i,t} + \beta_8 CA_{i,t} + u_i + \epsilon_{i,t} \quad (5)$$

4 Research Findings

The first stage of the analysis involved examining the descriptive characteristics of the variables under investigation. As reported in Table 1, the mean Capital Adequacy Ratio (CA) across the studied banks is –4.99, a notably adverse figure that reflects the inefficient performance of the Iranian banking network during the study period. Among the banks, Middle East Bank achieved the highest CA in 2012, whereas Ayandeh Bank recorded the lowest CA in 2014. The Return on Assets (ROA) index also exhibits a negative average, reinforcing the evidence of suboptimal efficiency across the Iranian commercial banking sector. Specifically, Middle East Bank reported the lowest ROA in 2012, and Ayandeh Bank reported the lowest ROA in 2014.
Before proceeding to model estimation, the pairwise relationships between research variables were assessed using the correlation coefficient matrix. As indicated in Table 2, the correlation coefficients among the variables are statistically significant in most cases, indicating substantial interdependence between the indicators used in the analysis.

In preparation for SYS-GMM estimation, it was necessary to evaluate the stationarity of the variables. To determine the appropriate unit root testing approach, cross-sectional dependence was first assessed using the Pesaran (2004) Cross-Section Dependence (CD) Test. The results, presented in Table 3, confirm the presence of cross-sectional dependence across all logarithmically transformed variables. Given this dependence, the Pesaran (2007) CIPS unit root test—which accommodates cross-sectional correlation—was applied to examine the stationarity properties of the variables. This ensures the panel data used in the estimation satisfies the statistical assumptions for dynamic panel modelling.

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Table 1
Characteristics of research variables

variable	Mean	Max		Min	
CA	-4.99	105.11	Khavar Myaneh (2012)	-503.18	Ayandeh (2024)
CD #	3.01*(10^8)	7.55*(10^9)	Saderat (2024)	720996	Khavar Myaneh (2012)
DD #	4.14*(10^8)	1.26*(10^{10})	Mellat (2024)	282665	Gardeshgari (2012)
FP #	70879408	2.12*(10^9)	Pasargad (2023)	23	Ayandeh (2019)
INV #	85164033	1.52*(10^9)	Refah (2022)	39941	Post Bank (2010)
LIQ #	10^8	2.15*(10^9)	Pasargad (2023)	4196	Gardeshgari (2011)
LPS #	7.67*(10^8)	9.82*(10^9)	Mellat (2024)	1703868	Dey (2010)
ROA	-0.0139	0.0729	Khavar Myaneh (2012)	-0.0633	Ayandeh (2024)

Million Rials, *Multiplication symbol
Source: Research Findings

Table 2
Matrix of correlation coefficients of research variables

ROA	LTA	LLPS	LLIQ	LINV	LFP	LDD	LCD	CA	
								1.00	CA
							1.00	-0.213 (0.00)	LCD
						1.00	0.81 (0.00)	-0.105 (0.07)	LDD
					1.00	0.48 (0.00)	0.42 (0.00)	0.184 (0.00)	LFP
				1.00	0.34 (0.00)	0.77 (0.00)	0.85 (0.00)	-0.247 (0.00)	LINV
			1.00	0.69 (0.00)	0.45 (0.00)	0.83 (0.00)	0.84 (0.00)	-0.05 (0.39)	LLIQ
		1.00	0.85 (0.00)	0.815 (0.00)	0.46 (0.00)	0.89 (0.00)	0.91 (0.00)	-0.06 (0.31)	LLPS
	1.00	0.98 (0.00)	0.87 (0.00)	0.86 (0.00)	0.46 (0.00)	0.91 (0.00)	0.94 (0.00)	-0.1 (0.06)	LTA
1.00	0.0008 (0.98)	0.05 (0.39)	0.02 (0.7)	-0.14 (0.01)	0.25 (0.00)	0.02 (0.69)	-0.11 (0.05)	0.83 (0.00)	ROA

Source: Research Findings

Table 3
Cross-sectional correlation test for Pesaran CD (2004) research variables

	ROA	LTA	LLPS	LLIQ	LINV	LFP	LDD	LCD	CA
Statistic	13.42	45.23	40.98	40.93	39.61	14.28	45.53	45.92	20.88
P-V*	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

*Null hypothesis: no cross-sectional dependence
Source: Research Findings

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Table 4
Stationarity test of Pesaran(2003), research variables

	ROA	LTA	LLPS	LLIQ	LINV	LFP	LDD	LCD	CA
Statistic	0.07	6.75	5.13	2.37	2.86	0.65	5.14	1.68	-1.01
P-V*	0.52	1.00	1.00	0.99	0.99	0.74	1.00	0.95	0.15

Null hypothesis: existence of an unit root
Source: Research Findings

Table 5
Kao Panel Covariance Test

ADF St.	P-V.	Variance of residuals
-4.64	(0.00)	596.32

Null Hypothesis: no co-integration
Source: Research Findings

Given that all variables exhibited a unit root at their level form, the Kao panel cointegration test was applied to assess the existence of a long-run equilibrium relationship among the research variables. The results, presented in Table 5, indicate that the null hypothesis of no cointegration is rejected. This outcome confirms the presence of cointegration and thus a statistically significant long-term relationship among the variables in the model.

Following the confirmation of long-run relationships, the System Generalized Method of Moments (SYS-GMM) models were estimated to identify and quantify the dynamic short-run effects and the persistence of the dependent variables, while controlling for endogeneity and cross-sectional heterogeneity.

According to the results reported in Table 6, the Capital Adequacy Ratio (CA) in the previous period, the volume of public investment deposits in banks, interbank deposits, cash balances, facilities extended to the private sector, and the Return on Assets (ROA) all exert a statistically significant influence on the current period CA, at the 90% confidence level. This finding underscores the importance of both deposit structure and asset utilization in determining a bank's capital buffer. Similarly, Table 7 indicates that the ROA in the preceding period, the level of public investment and current deposits held in banks, bank investments in stocks and bonds, cash balances, and the CA from the previous period each have a significant effect on the current period ROA, also at the 90% confidence level. These results highlight the reciprocal dynamic between profitability and capital adequacy in the Iranian commercial banking sector. The validity of the SYS-GMM estimation was confirmed through the Sargan test, which did not reject the null hypothesis of

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correct instrumental variable specification. The instruments—constructed from appropriately lagged independent variables—were thus deemed valid, ensuring that the estimated coefficients are unbiased and consistent in the presence of potential endogeneity.

Table 6
System GMM estimation. Dependent variable: Capital Adequacy

Explanatory variable	**Coefficient**	**S.E.**	**t st.**	**P.V.**
CA(-1)	0.66	0.07	8.86	(0.00)
LCD	-7.93	4.75	-1.66	(0.09)
LDD	-3.43	2.76	-1.24	(0.21)
LFP	2.39	1.18	2.02	(0.04)
LINV	-0.44	3.12	-0.14	(0.88)
LLIQ	3.09	2.27	1.71	(0.08)
LLPS	3.64	1.645	2.21	(0.03)
ROA	206.61	34.94	5.91	(0.00)
intercept	37.07	18.85	1.96	(0.06)
R^2	0.86	D.W.	1.77	
Sargan χ^2 (p-value)	6.12 (0.13)	Jarque-Bera normal distribution statistic for residuals (P-V)		36883 (0.00)

Source: Research Findings

Table 7
System GMM estimation. Dependent variable: ROA

Explanatory variable	**Coefficient**	**S.E.**	**t st.**	**P.V.**
ROA(-1)	0.66	0.119	5.54	(0.00)
LCD	0.018	0.028	1.64	(0.09)
LDD	0.037	0.014	2.68	(0.00)
LFP	-0.004	0.005	-0.85	(0.39)
LINV	-0.025	0.008	-3.02	(0.00)
LLIQ	-0.009	0.009	-2.07	(0.01)
LLPS	-0.018	0.034	-0.53	(0.59)
CA	0.0004	0.0001	2.84	(0.00)
intercept	-0.02	0.143	-0.18	(0.85)
R^2	0.9	D.W.	1.88	
Sargan St. (P-V.)	2.25 (0.32)	Jarque-Bera normal distribution statistic for residuals (P-V)		12293.74 (0.00)

Source: Research Findings

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5 Conclusion

The estimation of the first regression model (Equation 4) demonstrates that the lagged Capital Adequacy Ratio (CA) exerts a significant and positive effect on the current period's CA. Specifically, a one-percentage-point increase in the CA of the previous year leads to a 0.66% rise in the subsequent year. The CA is a critical indicator of a bank's capacity to absorb financial and credit risks through its capital base and is widely employed as a key measure of institutional soundness. Given that many banking risks follow persistent time trends, the positive dependence of current and lagged capital adequacy on its historical values is both statistically and economically plausible. These findings are consistent with the results reported by Sadat Hoseini (2024).

The study further reveals that growth in customer investment deposits (LCD) has a significant negative effect on CA: a 1% rise in such deposits reduces the CA by 7.93%. When the public increases deposits motivated by profit-seeking, the ensuing interest payment obligations heighten asset risk and erode capital buffers. Conversely, deposits in other commercial banks (LFP) have a significant positive impact, with a 1% increase boosting CA by 2.39%. Interbank deposits reduce lending exposure and free up capital for more effective risk-adjusted asset management.

Cash balances (LLIQ) also have a positive and significant effect, whereby a 1% increase raises CA by 3.09%. As the most liquid current asset, cash enhances the bank's ability to manage risk and maintain capital adequacy. In addition, a 1% increase in facilities to the private sector (LLPS) elevates CA by 3.64%, supporting Arbab Afzali et al. (2024), who note that Iranian banks promptly adjust their lending in response to changes in capital adequacy.

For the Return on Assets (ROA), the relationship is highly pronounced. Each one-unit increase in ROA raises CA by 206.61 units, underscoring a substantial link between profitability and capital strength, consistent with Fajinmi et al. (2023). Given that the average ROA of Iranian banks is –0.0139, such a shift represents a major improvement that is unlikely under current conditions. Translating this into percentage changes, a 100% increase in ROA (equivalent to a rise of 0.01 points) would increase CA by roughly 2.0661 points. The second regression model (Equation 5) identifies several significant determinants of ROA. A 1% increase in the prior period's ROA leads to a 0.66% rise in the following year. Growth in current deposits and Qarz al-Hasaneh savings (LDD) increases ROA by 0.037%, whereas a 1% rise in investment in stocks and securities (LINV) reduces ROA by 0.025%. The latter indicates weakness in the Iranian banking sector's equity investments,

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compounded by the past decade's macroeconomic instability, stock market volatility, and asset bubbles, which have diminished returns.

Bank liquidity exhibits a small but significant negative effect on ROA, suggesting that excess liquidity restrains lending and investment capacity, thereby lowering profitability. The CA in the prior period exerts a slight but significant positive influence ($\beta = 0.0004$) on ROA, aligning with the findings of Sargolzaei et al. (2020) and supported by Saydi and Safari (2021) in studies of Iranian and Turkish banks. Overall, the results highlight the strong inter-temporal link between past and current performance in Iranian banks. This suggests that managerial attention to past operational inefficiencies and targeted corrective measures can substantially improve present outcomes. Strengthening interbank relationships under sound central bank oversight can raise capital adequacy and mitigate systemic crises. Conversely, mergers or liquidation of banks with chronically low CA ratios require central bank intervention through monetary expansion to cover deficits, a process that risks exacerbating inflation in an already liquidity-strained economy.

Given the strong positive effect of lending on CA—and the reliance of both producers and consumers on bank financing—redirecting facilities toward productive sectors rather than consumption could boost capital strength without intensifying inflationary pressures. Efficient and profitable use of assets emerges as a decisive factor in sustaining adequate capital buffers. The observed liquidation of certain Iranian banks may reflect the sharp erosion of CA due to ineffective utilization of resources. While holding cash balances provides short-term risk resilience, excessive reliance on cash undermines asset productivity and reduces profitability. Improving current asset management practices will therefore be essential to enhancing both CA and ROA across the sector.

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