“Does executive compensation matter to bank performance? Experimental evidence from Jordan”

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DOES EXECUTIVE COMPENSATION MATTER TO BANK PERFORMANCE? EXPERIMENTAL EVIDENCE FROM JORDAN

Abstract

The high pays received by executives has gained global attention. This study examines the impact of executive compensation on the performance of Jordanian banks, an area that has not been explored much. The study uses empirical methods for data collection and analysis. Dependent variables include Return on Equity (ROE) and Tobin's Q performance, while total compensation incentives is the main independent variable. Control variables include bank size, bank age, leverage, and female executives. Through balanced panel data analysis comprising 196 bank-year observations, this quantitative research paper applies Ordinary Least Squares (OLS), fixed-effect, and Generalized Method of Moment (GMM) methods. These methods accurately establish the compensation-performance relationship in the banking sector from 2009 to 2022. The coefficient of determination (R2) for the ROE model: 51.63%, Tobin-Q model: 39.33%. These robust models support the main finding that executive compensation is significantly and positively correlated with operating and market-based performance indicators. Results validate the agency hypothesis, indicating that executives are rewarded for bank performance indicators. Consequently, a one-unit increase in executive compensation leads to a rise of 22.8 cents in ROE and 29.51 cents in Tobin-Q. Additionally, bank size, age, leverage, and female executives positively impact bank performance indicators. A modification of BSIZE, BAGE, LEV, and FEMALE by one-unit results in a proportional adjustment of 26.1 cents, 16.6 cents, 2.07 cents, and 48.6 cents, respectively, in ROE. Additionally, a one-unit alteration in BSIZE, BAGE, LEV, and FEMALE corresponds to variations of 77.6 cents, 56.42 cents, 34.39 cents, and 48.8 cents, in Tobin-Q, all in the same direction.

Keywords corporate governance, senior executive compensation, agency theory, developing country

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INTRODUCTION

Due to the separation of ownership and control in modern organizations (Aslam et al., 2019), various internal governance mechanisms have emerged to address the agency issues between agents and principals (Mansour et al., 2022a), including executive compensation systems (Morri et al., 2023). Effective executive compensation systems can aid in attracting competent chief executive officers (CEOs) committed to advancing a firm's goals and protecting shareholders' investments (Olaniyi, 2019). However, a much-debated question is about the effect of CEO compensation on the performance of businesses (Basu et al., 2007). From the principal-agent theory perspective, CEO compensation (Dai et al., 2023), specifically linked with operational performance, could diminish agency costs by aligning the interests of CEOs with owners/shareholders, by incentive contracts (Farooq et al., 2023). The underlying argument is that tying CEO compensation to exceptional firm performance incentivizes them (Alves et al., 2016).

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The supporters of agency theory have highlighted the pivotal role of CEO's compensation in achieving desired results for sustained business success (Abdalkrim, 2019; Kayani & Gan, 2022). On the other hand, academics asserted that excessive executive compensation wastes business resources (Wang et al., 2021), erodes investor trust, obstructs corporate growth (Zoghlami, 2021), and renders firms vulnerable, causing dissatisfaction among shareholders and the general public as a result of the notable salary gap between CEOs and regular employees (Khaled, 2020). Additionally, Stanford University surveys from the US demonstrate that CEO compensation was excessive (Harymawan et al., 2020). Resultantly, due to an ongoing debate, prior studies are widely heterogeneous (Dias et al., 2020). Therefore, the escalating issue of CEO compensation has gained global significance in contemporary society (Rasoava, 2019; Sajnóg & Rogozińska-Pawełczyk, 2022), particularly following the 2008 financial crisis (Aslam et al., 2019; Bhuyan et al., 2022). Given the foregoing, this study is significant because it aims to provide an answer to an essential question in the Jordanian context as a developing country: What association exists between the CEOs' compensation and the performance of banks?

1. LITERATURE REVIEW AND HYPOTHESIS

The success or failure of the business is primarily affected by the efficiency of the methods employed by businesses to reward and encourage their staff, including CEOs (Sajnóg & Rogozińska-Pawełczyk, 2022). CEO compensation is crucial for attracting and keeping talented staff in a fiercely competitive global economy (Deysel & Kruger, 2015; Sheikh et al., 2018). Furthermore, CEO compensation is a key signal of a firm's dedication to effective leadership and strategic decision-making (Morri et al., 2023), impacting investors' and stakeholders' assessments of the firm's overall success (Dai et al., 2023). Although the compensation-performance connection has been well studied (Raithatha & Komera, 2016), mostly in Anglo-Saxon nations, it is still a contested topic in other situations. (Chen & Hassan, 2022; Demirer & Yuan, 2013). Executive compensation is a pillar of good governance practices (Zoghlami, 2021). Consequently, some theories support the role of executive compensation in enhancing firm performance, while others reject it (Ozkan, 2011; Wang et al., 2021). Many studies worldwide mostly used agency theory to clarify the relationship between CEO compensation and firm performance (Abdalkrim, 2019; Bhuyan et al., 2022; Wang et al., 2021). According to agency theory, CEOs are self-interested and thus can impair the firm's interests in order to pursue personal gain, resulting in increased agency costs (Deysel & Kruger, 2015; Swagerman & Terpstra, 2007). Accordingly, compensation and incentives must be tailored to boost shareholder value while preventing opportunistic conduct that may render managers to serve solely their own interests (Dias et al., 2020). This viewpoint is supported by a study by Abdalkrim (2019), which employed a fixed effect model to analyze longitudinal data and found a positive correlation between CEO compensation and the performance of Kingdom of Saudi Arabia-listed firms between 2005 and 2014. Empirical evidence from Pakistan by Aslam et al. (2019) supports the agency theory approach, which investigated non-financial listed enterprises between 2009 and 2016 using the GMM technique. The current findings indicate that there is a positive correlation between CEO pay and company performance on the Karachi Stock Exchange. Studies contend that competitive compensation may enhance executive performance in fulfilling shareholder goals, but investors do not appear to value a rise in CEO compensation. According to the agency hypothesis, one may argue that investors worry about potential executive opportunistic conduct that would encourage them to take advantage of overcompensation. This viewpoint is experimentally corroborated by Zoghlami (2021), who examined the relationship between CEO compensation and business performance using balanced panel data of listed French companies from (2009–2018). The study applied the GMM and fixed effect models and discovered a positive association between the accounting performance (ROA, ROE), but it also observed an insignificant negative relationship between CEO compensation and Tobin-Q performance. A different study proposes that to address agency issues, energy companies should establish an equitable compensation incentive plan (Wang et al., 2021). This study examines the connection between executive remuneration and the financial performance (ROE, ROA, and Tobin Q) of global energy corporations. The OLS method gathered data from 121 publicly traded energy firms during 2010–2019 for empirical investigation. The results reveal a substantial positive association, aligning with agency theory. Furthermore, a comprehensive seven-year study conducted by Deysel and Kruger (2015) regarding the correlation of CEO compensation with performance in the South African banking sector yielded a statistically significant positive link. Consequently, this favorable association indicates the alignment of interests between principals, shareholders, and agents or managers, thus reducing agency costs. Consequently, improved business performance becomes attainable. Conversely, Basu et al. (2007) identified an adverse connection between accounting performance and major Japanese corporations from 1992 to 1996. Numerous studies suggest a fragile or even inverse relationship between CEO pay and corporate success. Demirer and Yuan (2013) observed a negative correlation between wage remuneration in the U.S. restaurant industry and enterprise performance spanning from 1999 to 2010. Similarly, Dias et al. (2020) discovered a negative correlation between Brazilian firms and the fixed component of executive compensation and incentive structure. Recent evidence (Ibrahim & Maitala, 2023) from Nigeria shows a negative connection between executive pay and non-financial listed firms' ROE on Nigeria's stock exchange. Barde et al. (2023) evaluated the link between CEO compensation and the value of Nigerian banks throughout the period of 2010–2021 using a random-effect model and discovered an important and positive nexus between them, which contrasts with the findings of Ibrahim and Maitala (2023). While Chen and Hassan, (2022) found that CEO compensation has a significantly positive association with the performance of China's listed firms during a period (2016–2018). Depending on bonding theory, Cui et al. (2021) did not find any relationship between CEO compensation and non-financial listed firms' performance on China and Hong Kong stock exchanges (2005–2017). Ozkan (2011) claimed that the relationship between CEO salary and the performance of UK non-financial enterprises does not seem to work in practice using imbalanced panel data collected over a 7-year period and a fixed effect model. Rasoava (2019) also uncovered data from South Africa indicating a strong non-linear relationship between CEO compensation and the success of large listed companies on the JSE from 2005 to 2016. Using the fixed effect model, Khaled (2020) investigated the association between CEO pay and the financial performance of industrial sectors listed on the Amman Stock Exchange (ASE). The mixed findings of this study indicate that CEO compensation has a large positive link with net profit margin and a weak positive correlation with Tobin's Q, but a considerable negative correlation with return on assets and profits per share. To date, analyses have found mixed conclusions that vary over time frames (Olaniyi, 2019) firms, sectors within different countries (Al Farooque et al., 2019), and different methodologies (Harymawan et al., 2020), which is a gap in the governance literature that still exists (Rasoava, 2019). Nevertheless, little is known about the efficacy of Jordan's CEO compensation system. Consequently, the generalizability of previous research conducted across diverse environments, governance frameworks, enterprises, and industries is questionable (Mansour et al., 2022a; Mansour et al., 2020). However, the bulk of these studies have focused on non-financial sectors in their empirical investigations (Aslam et al., 2019; Khaled, 2020; Marei et al., 2022). The existing status of the literature, which has a restricted focus in this field of study, served as the inspiration for this study. Therefore, the aim of this analysis is to empirically explore the effect of CEO compensation on the performanceof the Jordanian banking sector during periods from 2009 to 2022; a topic that has received insufficient attention. As per the above review, the following hypothesis is expected to be proposed:

H1: There is a positive and significant correlation between the compensation of CEOs and the performance of the banking sector in Jordan.

2. METHOD

2.1. Study sample

The whole relevant data for the study, which cover the entire population of listed banks at ASE for the period 2009–2022, were taken from the annual reports of fourteen banks that were deposited in ASE and the Securities Depository Center

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(SDC). There are 196 firm-year observations in all. By using content analysis, the panel data were manually gathered (Mansour et al., 2020). The data were winsorized at the 1st and 99th percentiles to account for the impact of outliers (Raithatha & Komera, 2016). STATA 14 software will be used to process panel data.

The mentioned Jordanian banks serve as a noteworthy example for a variety of reasons (Al-Dhaimesh, 2019). According to Marei et al. (2022), the banking industry aids in the Kingdom's social and economic growth. For instance, the banking industry's assets, loans, and deposits in 2018 accounted for 173%, 112%, and 117% of GDP, respectively. The banking industry is also heavily regulated. Mandatory corporate governance (CG) requirements have been enforced by the Central Bank of Jordan since 2008 (Mansour et al., 2023b), which helps Jordan draw in foreign investment (Mansour et al., 2022b).

2.2. Definitions and measurement of variables

The following sections outline the elements of the suggested framework, as well as the definitions and methods for measuring the research variables:

Table 1. Definitions and measurement of study variables

Variable	Acronym	Definition & Measurement
Dependent variables		
Operating Performance	ROE	Net income/shareholders' equity
Market Performance	Tobin-Q	Market value of equity/ book value of Equity
Independent variable		
Total Executive Compensation	CEO-PAY	Natural logarithm of total executive compensation incentives perceived by CEOs of bank's
Control variables		
Bank's Size	BSIZE	Natural logarithm of total assets of intended Bank
Bank's Age	BAGE	Natural logarithm of total number of years since a bank was established to the date of observation
Leverage	LEV	Total Debt/Total Assets
Female Executive	FEMALE	Number of female executives in a bank
Dummy Years	YEAR	Dummies to observe the time-effects from (2009–2022)

2.2.1. *Bank performance (dependent variable)*

To enhance the quality of research results, this study has employed two different indicators to estimate bank performance (Al Farooque et al., 2019; Alodat et al., 2022). While the ROE is utilized as it is considered a popular ratio as an alternative measure of businesses performance which is widely used in the accounting and financing literature (Alodat et al., 2023a; Mansour et al., 2022a; Mansour et al., 2022b), Tobin's Q is employed as an alternative market-based measure of bank performance (Barde et al., 2023; Khaled, 2020). Studies have used operating: ROE, and market-based measures: Tobin's Q as an integrative way to get a better picture of businesses performance (Ahamed, 2022; Al-Dhaimesh, 2019; Saleh et al., 2021).

2.2.2. *Total executive compensation (independent variable)*

According to the relevant literature (Khaled, 2020; Wang et al., 2021; Zoghlami, 2021), this study assessed CEO compensation in terms of the entirety of compensation and remuneration received by all CEOs of listed banks, encompassing wages, salaries, remunerations, as well as travel and transportation expenses, both within and outside of Jordan.

2.2.3. *Control variables*

According to the related literature (Abdalkrim, 2019; Chen & Hassan, 2022; Zoghlami, 2021), five variables were placed in the existing study to control for other bank attributes that could influence its performance: Bank Size, Bank Age, Leverage, and Female Executive (Al Farooque et al., 2019; Flabbi et al., 2019; Morri et al., 2023). In addition, the analysis also includes a year dummy variable to detect any exogenous shock during spanned fourteen years that are joint to all banks (Han & Mun, 2023). Table 2 indicates the definitions and measures of all control variables. The rationale for adding female executives as a control variable is that the ratio of female executives in enterprises worldwide displays a growing trend, as well as it has imperative to affecting financial performance (Chen & Hassan, 2022; Flabbi et al., 2019; Sajnóg & Rogozińska-Pawełczyk, 2022). Also, female executives are supporting the evaluation of the role of women in social and enterprise development, which is of tremendous importance to the keeping of social equity (Sarhan et al., 2019).

2.3. Model specification

The OLS method for panel data is employed in this study, which is one of the most popular statistical tools for testing hypotheses in the social sciences (Alves et al., 2016). Hence, panel data's key advantage is the substantial increase in sample size despite having few firms. Employing panel sets augments the available observations, thereby offering the study significant statistical analysis. This study objective involved a thorough analysis of the correlation between CEO compensation in Jordanian banks and the performance of their respective institutions. Employing the baseline regression model, valuable insights can be obtained that will provide a comprehensive understanding of this relationship:

$$\begin{aligned}&Bank\ Performance = \beta_0 + \beta_1 CEO - \\&PAY_{i,t} + \beta_2 BSIZE_{i,t} + \beta_3 BAGE_{i,t} + \\&+\beta_4 LEV_{i,t} + \beta_5 FEMALE_{i,t} + \beta_6 Year_{i,t} + \varepsilon_{i,t},\end{aligned} \tag{1}$$

where i denotes listed bank (1-14), t period of study (2009–2022). All definitions of the variables in Table 1 are provided.

3. RESULTS

3.1. Diagnostic tests

The screening and preparation of panel data involved diagnostic test methods to ensure precise data analysis and prevent misleading outcomes (Saleh et al., 2022). These tests address the fundamental statistical assumptions in multivariate analysis. To accomplish this, the study will commence with conducting tests to identify outliers (Alodat et al., 2023a), normality tests (Mansour et al., 2023), data transformation, linearity tests (Alodat et al., 2022), multicollinearity tests (Khaled, 2020; Mansour et al., 2022a), heteroscedasticity (Alves et al., 2016; Saleh et al., 2021), and autocorrelation. Table 2 and Table 3 show the results of the normality and tests. As one can see in Table 2, the results of normality tests outline the value of skewness and kurtosis, exhibiting that the panel data were normally distributed. In addition, Table 3 shows the results of multicollinearity tests by variance inflation factors (VIFs) ratios for relevant independent variables (Shatnawi et al., 2022). Consequently, it was revealed that all VIF ratios were below of threshold value which is 10 (Khaled, 2020). Thus, there is no concern for multicollinearity problems in these variables (Morri et al., 2023).

3.2. Descriptive analysis and data description

Table 2 illustrates the descriptive analysis summary of the variables engaged in the multivariate regression model. Thus, Table 2 primarily offers the descriptive statistics of research variables for the unit of study which are 14 listed banks in ASE during the period 2009–2022, through the total number of observations, mean (average) value, standard deviation, minimum, as well as maximum value of these variables.

As Table 2 shows, the ROE ranged from 0.566% to 15.991%, with a mean value (Standard deviation) of 8.06% (3.395). This highlights the variation in banks' ROE during the study period. Also, the Tobin-Q as dependent variable ranged from 0.436% to 2.441%, with the mean value (Standard deviation) of 0.933% (0.409). These statistics infer that there is little difference in market performance across the listed banks on the ASE.

Likewise, Table 2 delivers summary statistics for CEO-PAY, which is the main explanatory variable. CEO-PAY ranged between 13.997% and 15.701%, with a standard deviation of 0.333, and the mean CEO-PAY value was 14.734%.

Table 2 also incorporates the description statistics for the relevant control variables. The BSIZE ranged between 20.304% and 24.049%, with a standard deviation of 0.85, and the mean bank size value was 21.77%. The BAGE ranged between 19 and 92 years, with a standard deviation of 15.807, and the average of the banks' age was 46.07 years. These statistics display that there is a considerable disparity in the banks' age. The LEV ranged between 80.2% and 93.4%, with a standard deviation of 2.864, and the average bank gearing value was 86.9%. These statistics show a high ratio

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Table 2. Descriptive statistics and normality tests

Variables	Observation	Mean	Standard deviation	Minimum	Maximum	Skewness	Kurtosis
ROE	196	8.06	3.395	0.566	15.991	–0.198	2.179
Tobin-Q	196	0.933	0.409	0.436	2.441	0.719	2.199
CEO-PAY	196	14.734	0.333	13.997	15.701	0.74	1.995
BSIZE	196	21.77	0.85	20.304	24.049	0.222	3.231
BAGE	196	46.07	15.807	19	92	1.219	3.179
LEV	196	86.9	2.864	80.2	93.4	–0.045	2.251
FEMALE	196	1.96	1.577	0	6	0.594	2.543

of financial leverage in listed banks. The final control variable is FEMALE, which ranged between 0 and 6, with a standard deviation of 1.577, and the average number of female executives working in banks was almost two. These statistics show that female executives are nowadays taking more on the globe business. Thus, the participation of female executives in bank performance is valuable to advance the grounds of gender diversity in the Jordanian context (Alodat et al., 2023b).

3.3. Univariate analysis

Table 3 illustrates several significant correlations among pairs of continuous independent variables. The correlation coefficients between independent variables did not exceed the threshold of 0.700, indicating that no substantial concern in the multivariate regression model due to multicollinearity matter (Aslam et al., 2019). Table 3 exhibits correlation coefficient among bank performance, executive compensation, and control variables. The CEO-PAY is clearly positively correlated with ROE (0.525) and Tobin-Q (0.359), at the 5% level. It seems that all control variables also have a clear positive correlation with the performance measures of banks. This indicates that these variables are important factors to consider when assessing the success of a bank.

Based on Table 3, it is evident that the variance inflation factors' (VIF) ratios are significantly lower than the benchmark value of 10. This finding implies that there is no severe multicollinearity concern among the explanatory variables (Khaled, 2020). As a result, the regression analysis outcomes can be interpreted with a higher level of certainty and reliance (Abdalkrim, 2019).

3.4. Multivariate regression analysis

An analysis of traditional OLS regression was conducted to evaluate the correlation between performance indicators and additional pertinent factors. The panel dataset's OLS regression model offers numerous advantages (Sajnóg & Rogozińska-Pawełczyk, 2022), including clearness and simplicity in its implementation (Alodat et al., 2023a), raising statistical strength (Mansour et al., 2022b), and acquiring time-invariant effects (Saleh et al.,

Table 3. Correlation matrix and multicollinearity test

Variable	ROE	Tobin-Q	CEO-PAY	BSIZE	BAGE	LEV	FEMALE
ROE	1.000	–	–	–	–	–	–
Tobin-Q	0.536*	1.000	–	–	–	–	–
	0.0000						
CEO-PAY	0.525*	0.359*	1.0000	–	–	–	–
	0.0000	0.0000					
BSIZE	0.188*	0.385*	0.633*	1.000	–	–	–
	0.035	0.0000	0.0000				
BAGE	0.196*	0.567*	0.378*	0.465*	1.000	–	–
	0.028	0.0000	0.0000	0.0000			
LEV	0.669*	0.296*	–0.223*	0.087	–0.145	1.000	–
	0.0000	0.0008	0.0121	0.333	0.107		
FEMALE	0.413*	0.201*	0.1304	0.223*	–0.023	–0.055	1.000
	0.0000	0.0238	0.1455	0.012	0.798	0.538	
VIF	–	–	2.07	2.61	1.35	1.07	1.31

Note: * P < 0.05 (2-tailed).

2021). Table 4 shows that the linear regression results reveal a strong relationship between CEO-PAY and bank performance. This highlights the significance of considering executive compensation when analyzing a bank's performance. The ROE model has an R^2 of 51.63% and F-Test value of 12.47 at the 1% level. The Tobin-Q model has an R^2 of 39.33% and F-Test value of 5.09 at the 1% level. The statistical analysis confirms the validity and significance of the ROE and Tobin-Q models. Strong R^2 and F-Test values support their use for decision-making.

Based on the R^2 values, it can be concluded that the independent variables explain for 51.63% and 39.33% of the variation in ROE and Tobin-Q, respectively. The regression analysis (Table 4) shows that the regression coefficients between the CEO-PAY and the ROE and Tobin-Q that measure banks performance are all positive, and the two are significant at the level of 1%. It has been confirmed that Hypothesis 1, which suggests that there is a positive and significant correlation between the compensation of CEOs and the performance of the banking sector in Jordan, is accurate. This result is in complete alignment with the principles of agency theory and is further corroborated by numerous other studies. Better qualified CEOs are therefore more valued by the market and have superior operating results. In fact, every one-unit increase or decrease in CEO-PAY results in a 22.8 cents and 29.51cents change in the ROE and Tobin-Q in the same direction (other things that remain constant). According to this result, CEO compensation plays a significant role in determining performance for Jordanian banks.

Upon analyzing the control variables, it is evident that all control variables have a noteworthy positive impact on both ROE and Tobin-Q. This is clearly reflected by the coefficients outlined in Table 4. Based on correlation coefficients for ROE model in Table 4, it is clear that any increase or decrease of one unit in BSIZE, BAGE, LEV and FEMALE while keeping all other factors constant, results in a corresponding change of 26.1 cents, 16.6 cents, 2.07 cents and 48.6 cents, respectively, in the ROE indicator, and in the same direction. According to the correlation coefficients shown in Table 4 for the Tobin-Q model, it is evident that any change in BSIZE, BAGE, LEV, and FEMALE by one unit, while keeping all other variables constant, results in a corresponding change of 77.6 cents, 56.42 cents, 34.39 cents, and 48.8 cents, respectively, in the Tobin-Q, and in the same direction.

3.5. Additional analysis

To make sure that the results are solid, the study runs additional analysis in this part. Tables 5 and 6 show further analysis.

3.5.1. Re-examining the study model using a fixed effects model

Studies indicated that the OLS regression model may have some limitations, such as misspecification issues, an inability to account for individual heterogeneity, and ignoring time-dependent effects (Alves et al., 2016; Raithatha & Komera, 2016). As a result, this study decided to use alternate panel data regression models, such as fixed

Table 4. Panel regression results for CEOs' compensation-banks performance nexus

Variables	ROE Model			Tobin-Q Model		
	Coefficients	Standard error	t	Coefficients	Standard error	t
Constant	0.217**	(0.0878)	–2.47	0.551*	(0.146)	3.78
CEO-PAY	0.228*	(0.0384)	5.93	0.2951*	(0.0712)	4.15
BSIZE	0.261**	(0.0903)	2.89	0.776**	(0.383)	2.03
BAGE	0.166***	(0.0898)	1.85	0.5642*	(0.1398)	4.04
LEV	0.0207**	(0.0101)	2.05	0.3439**	(0.146)	2.36
FEMALE	0.486*	(0.179)	2.72	0.488**	(0.165)	2.96
Year Dummies	Included			Included		
F-test	12.47			5.09		
Prob. > F	0.0000			0.0000		
R^2	51.63 %			39.33%		

Note: *** P < 0.1, ** P < 0.05, and * P < 0.01.

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or random effects models (Mansour et al., 2022a; Raithatha & Komera, 2016), to address any inadequacies (Sajnóg & Rogozińska-Pawełczyk, 2022). Furthermore, this technique was employed to overcome previous research limitations, such as Rasoava (2019). This study retained the fixed effect model to assess the parameters of the two models (ROE and Tobin-Q), as mentioned above, based on the Hausman test executed on the balanced panel data (Morri et al., 2023). Such specifications enable control of unobservable heterogeneity variables that may affect the performance of banks (Sheikh et al., 2018), in addition to tackling some extent of the endogeneity problem (Saleh et al., 2022).

Table 5 shows that the linear regression outcomes also disclose a strong relationship between CEO pay and bank performance. The ROE model has an R^2 (within) of 71.32%% and an F-Test value of 765.48 at the 1% level or better. The Tobin-Q model has an R^2 (within) of 44.98% and an F-Test value of 387.67 at the 1% level or better. In addition, the fixed-effects regression analysis shows in Table 5 that the regression coefficients between the natural logarithm of total compensation incentives (CEO-PAY) and the two performance indicators (ROE, Tobin-Q) that measure banks' performance are all positive, and the two are significant at the level of 1%. This means that for bank performance, every one-unit change (increase or decrease) in the CEO-PAY has a corresponding change in the ROE and Tobin-Q of 17.1 cents and 13.7 cents, respectively, in the same direction. The findings show that the findings about H1 are still relevant. Table 5 shows that when the control variables are examined, it is clear that BSIZE, BAGE, LEV, and FEMALE have a significant positive impact on both ROE and Tobin-Q.

Upon analyzing the control variables, it is evident that BSIZE, BAGE, LEV, and FEMALE have a noteworthy positive impact on both ROE and Tobin-Q. This is clearly reflected by the coefficients outlined in Table 5. Based on correlation coefficients for ROE model in Table 5, it is clear that any increase or decrease of one unit in BSIZE, BAGE, LEV and FEMALE while keeping all other factors constant, results in a corresponding change of 52.6 cents, 22.5 cents, 66.8 cents and 3094 cents, respectively, in the ROE indicator, and in the same direction. According to the correlation coefficients also shown in Table 5 for the Tobin-Q model, it is evident that any change in BSIZE, BAGE, LEV, and FEMALE by one unit, while keeping all other variables constant, results in a corresponding change of 70.1 cents, 9.33 cents, 11.77 cents, and 9.741 cents, respectively, in the Tobin-Q, and in the same direction. These results help to validate the previous findings in Table 4.

3.5.2. *Endogeneity tests*

Because several academic papers (Aslam et al., 2019; Bhuyan et al., 2022; Sheikh et al., 2018; Zoghlami, 2021) have demonstrated that business

Table 5. Results of a fixed-effect model for the CEO compensation-bank performance nexus

Variables	ROE model			Tobin-Q model		
	Coefficients	Standard error	t	Coefficients	Standard error	t
Constant	0.387*	0.0876	4.42	0.287*	0.131	2.18
CEO-PAY	0.171*	0.0294	5.81	0.679*	0.137	4.95
BSIZE	0.526*	0.145	3.62	0.701*	0.2425	2.89
BAGE	0.225***	0.103	2.18	0.0933*	0.0214	4.35
LEV	0.668**	0.288	2.32	0.1177*	0.035	3.36
FEMALE	0.3094*	0.057	5.43	0.0974*	0.0204	4.77
Year Dummies	Included			Included		
F-Test	765.48			387.67		
Prob. > F	0.0000			0.0000		
R^2 (within)	71.32%			44.98%		
Breusch & Pagan	108.04*			372.60*		
Hausman Test	33.97*			31.82*		
Observations	196					
Number of groups	14					

Note: *** P < 0.1, ** P < 0.05, and * P < 0.01. Regression with Driscoll-Kraay standard errors.

performance may potentially be a factor in CEO compensation, one can infer bias due to the endogeneity problem (Ahamed, 2022; Saleh et al., 2022). To cope with this matter, this study used a more advanced technique, dynamic panel data estimation by engaging the two-step GMM estimator (Mansour et al., 2022b; Olaniyi, 2019; Raithatha & Komera, 2016), which avoids the reverse causality problem between executive compensation and bank performance and so helps to lessen the endogeneity concern (Al Farooque et al., 2019; Farooq et al., 2023). Hence, the dynamic GMM models are also considered vigorous against autocorrelation and heteroscedasticity (Mansour et al., 2023). This study specifically incorporates a one-legged bank performance measure (ROE (t-1), Tobin-Q (t-1)) as an instrumental variable among the independent variables. This could enable us to gain insight into two major statistical matters: (a) eventual persistence in bank performance and (b) eventual endogeneity (Zoghlami, 2021).

Table 6 summarized the results of the Hansen and Arellano-Bond tests. These tests indicated the validity of the dynamic GMM models (Ibrahim & Maitala, 2023). The results of the dynamic model in Table 6 indicate that past bank performance measures (ROE (t–1), Tobin-Q (t–1)) have a significant and positive impact on the current bank performance measures (ROE, Tobin-Q). Table 6 also shows that the two-step GMM estimation yields the same results as OLS and fixed-effects regression in Tables 4 and 5. As a result, endogeneity issues were unlikely to skew the results. Thus, in the Jordanian setting, the association between executive compensation and banking performance remains valid, and endogeneity is not a concern.

Overall, all the calculated coefficients' signs remain in the same direction. Table 6 displays a predominantly positive and highly significant coefficient for CEO-PAY. This implies that a one-unit alteration (whether an increase or decrease) in CEO-PAY, while keeping other factors constant, leads to a substantial change of approximately 50.8 cents and 40.6 in ROE and Tobin-Q, respectively, in the same direction. When the control variables are examined, BSIZE, BAGE, LEV, and FEMALE have a significant positive influence on both ROE and Tobin-Q. The coefficients shown in Table 6 clearly reflect this.

Based on correlation coefficients for ROE model in Table 6, any increase or decrease of one unit in BSIZE, BAGE, LEV and FEMALE while keeping all other factors constant, results in a corresponding change of 35.8 cents, 9.84 cents, 38.18 cents and 38.52 cents, respectively, in the ROE indicator, and in the same direction. According to the correlation coefficients shown in Table 6 for the

Table 6. Results of a GMM model for the CEO compensation-bank performance nexus

Variables	Dynamic ROE model			Dynamic Tobin-Q model		
	Coefficients	Standard error	z	Coefficients	Standard error	z
Constant	0.146***	0.0815	1.79	0.685*	0.1303	5.26
ROE (t–1)	0.4936*	0.1095	4.51	–	–	–
Tobin-Q (t–1)	–	–	–	0.7667*	0.0994	7.71
CEO-PAY	0.508*	0.058	8.76	0.406*	0.1275	3.18
BSIZE	0.358*	0.078	4.59	0.371*	0.111	3.34
BAGE	0.0984**	0.0456	2.16	0.0504*	0.0177	2.85
LEV	0.3818**	0.1585	2.41	0.4808*	0.2038	2.36
FEMALE	0.3852*	0.1185	3.25	0.569*	0.106	5.37
Year Dummies	Included			Included		
F-Test	418.195			44.695		
Prob > F	0.0000			0.0000		
Hansen test	0.279			0.318		
AR(1)	0.0001			0.0003		
AR(2)	0.8724			0.6359		
Observations	196					
No. of groups	14					
No. of instruments	9			11		

Note: *** P < 0.1, ** P < 0.05, and * P < 0.01.

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Tobin-Q model, it is evident that any change in BSIZE, BAGE, LEV, and FEMALE by one unit, while keeping all other variables constant, results in a corresponding change of 37.1 cents, 5.04 cents, 48.08 cents, and 45.9 cents, respectively, in the Tobin-Q, and in the same direction. These results help to validate the previous findings in Table 4 and Table 5.

4. DISCUSSION

This paper explain the findings based on the accomplished analysis to discuss the results. According to the primary analysis, which used the OLS regression model, there is a positive and substantial association between total compensation incentives and the operating (ROE) and market performance (Tobin-Q) of Jordanian listed banks, indicating the efficacy of CEO compensation incentives in enhancing banks' performance. Mutual benefit in executive pays and bank performance supports agency theory (Harymawan et al., 2020), reflecting aligned interests of managers and shareholders, potentially cutting down on agency costs (Olaniyi, 2019). Thus, raising CEO compensation in banks may better inspire executives to raise their efforts for the sake of the business rather than increase bank expenditures (Wang et al., 2021; Zoghlami, 2021). To that aim, the researchers presented data indicating that CEO compensation incentives are a very significant motivator, with tangible results for bank performance (Ahamed, 2022). Furthermore, the current article's findings are consistent with Abdalkrim (2019), Aslam et al. (2019), Chen and Hassan (2022), Kayani and Gan (2022), and Wang et al. (2021). Table 4 also presents OLS regression results for control variables, namely: Bank Size (BSIZE), Bank Age (BAGE), Leverage (LEV), and Female Executive (FEMALE), indicating a significant positive influence on the operational and market performance of banks listed in Jordan. The significant relationship between a bank's size and performance implies that a bank's size reflects its ability to achieve economies of scale and market impact. As a result, larger banks have a greater potential to provide hefty CEO remuneration (Chen & Hassan, 2022; Mansour et al., 2023). However, it is found that age has a large favorable influence on bank performance. According to economic theories, the older the bank, the more experience it gains and the more skills and knowledge it acquires (Zoghlami, 2021). As a result, leverage or gearing is positively related to bank performance. Given that the majority of the listed banks are low-risk, they might borrow money to stimulate expansion (Wang et al., 2021). Furthermore, the inclusion of female CEOs is related with improved bank performance. Furthermore, the findings of the current paper are congruent with Flabbi et al. (2019) and Sarhan et al. (2019), but inconsistent with Chen and Hassan (2022). The paper then conducted a further analysis using other panel data regression methods, specifically fixed effects models, to address any shortcomings in OLS regression models. Again, Table 5 reveals favorable and statistically significant correlations between total CEO compensation and both metrics of the performance of listed Jordanian banks. These findings are compatible with the findings of Zoghlami (2021), who employed a fixed effects model. Table 5 also includes fixed-effect regression findings for all control variables that have a substantial positive influence on the performance of Jordanian banks. In general, the results presented in Table 5 are consistent with the primary findings presented in Table 4. This study likewise used a two-step GMM method and generated largely identical results achieved by fixed effects regression. These findings agree with those of Aslam et al. (2019), who employed the GMM model.

CONCLUSION

The aim of this paper was to study the link between CEO pays and bank performance in Jordan. The key finding suggests that CEO compensation incentives exhibit a robust and positive correlation with the operational and market-based performance of the Jordanian banking sector from 2009 to 2022. As a result, a one-unit increase in CEO compensation increases ROE and Tobin-Q by up to 22.8 cents and 29.51 cents, respectively. According to the study's results, CEO compensation positively affects the executive team's motivation, significantly influences bank strategy, decision-making, value generation, and directly impacts bank performance. This confirms agency theory predictions and aligns with most research conducted worldwide. Hence, increasing CEO compensation in banks could incentivize CEOs to prioritize shareholder interests. These distinctive findings remain fitting to various forms of endogeneity. All control variables – BSIZE, BAGE, LEV, and FEMALE – have a significant positive influence on both ROE and Tobin-Q. In different areas, this study adds to the literature on CG. Firstly, the conclusions of the study have significant policy implications as Jordanian banks should increasingly adopt good governance procedures to reduce agency issues and improve performance. Secondly, it enhances the understanding of CEO compensation incentives in Jordan's banking sector from the perspective of CG principles embraced in Jordan, an aspect that has received less attention compared to non-financial sectors elsewhere. Thirdly, unlike other research, this study specifically addresses the endogeneity issues arising from the relationship between CEO compensation and business performance to obtain accurate inferences, thereby contributing to methodological improvement in the developing country. Unquestionably, the current study's findings hold substantial importance for regulators, listed bank management, academic researchers, and corporate owners in the ASE market. To ensure continuous improvement in bank performance, it is recommended, among other things, that banks enhance CEO compensation and prioritize performance as the basis for higher remuneration. In brief, this study possesses notable limitations, such as a limited number of observations due to the small count of listed banks, which should be considered in subsequent investigations, including expanding this empirical work to other MENA countries. Furthermore, employing this paradigm in cross-country contexts, especially in underdeveloped nations, could yield novel insights.

AUTHOR CONTRIBUTIONS

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