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Original Article

Corporate Governance and Financial Performance in Caspian Region Airlines: Evidence from Five State-Influenced Carriers, 2018–2024

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Abstract: *This paper examines whether corporate governance quality predicts financial performance across five Caspian region airlines — Air Astana (Kazakhstan), Aeroflot (Russia), AZAL (Azerbaijan Airlines), Turkmenistan Airlines (Turkmenistan), and Iran Air (Iran) — over the period 2018 to 2024. Using an original eight-dimension composite governance scoring framework with a maximum of ten points, the study constructs a panel dataset of 33 usable observations and estimates fixed-effects panel regression models. Revenue per Available Seat Kilometre (RASK), Cost per Available Seat Kilometre (CASK), and unit margin (RASK minus CASK) serve as dependent variables. The governance score is a statistically significant positive predictor of unit margin ($b = 0.47$, $p < 0.01$) and RASK, and a significant negative predictor of CASK, after controlling for oil price, gross domestic product (GDP) growth, and the COVID-19 demand shock. Air Astana — the most highly governed carrier at six to seven points — is the only sample carrier to achieve sustained positive unit margins in the post-pandemic recovery period. Results are consistent with agency theory predictions and contribute panel evidence from a geographically underrepresented emerging aviation market.*

Keywords: *Caspian Aviation, CASK, Corporate Governance, Emerging Markets, Panel Regression, RASK, State-Owned Enterprises, Unit Margin.*

I. INTRODUCTION

Corporate governance research has accumulated extensive evidence linking governance quality to firm financial performance in developed market economies. The central prediction, derived from agency theory [1], is that governance mechanisms that constrain managerial opportunism and align executive incentives with firm objectives will improve financial outcomes. Empirical support is substantial: Gompers, Ishii, and Metrick [10] demonstrated that composite governance quality predicts firm valuation; Buallay, Hamdan, and Zureigat [11] confirmed the relationship for state-owned Gulf Cooperation Council firms.

The Caspian aviation sector offers a natural comparative laboratory for this question, but has received negligible attention in the governance and aviation economics literature. Five principal carriers — Air Astana, Aeroflot, AZAL, Turkmenistan Airlines, and Iran Air — operate within a shared regional geography while exhibiting substantial variation in governance quality, ownership structure, and financial outcomes. Air Astana, partially privatized and listed on the London Stock Exchange (LSE) since 2023, has achieved positive unit margins in the post-COVID period while fully state-owned peers operate at or below break-even.

This paper addresses the following research question: Does governance quality, measured by a composite score across eight dimensions, predict financial performance, measured by unit margin, RASK, and CASK, in a panel of Caspian region airlines from 2018 to 2024? Three contributions are made. First, panel evidence on the governance-performance relationship is provided from an emerging aviation market with negligible prior coverage. Second, the unit margin methodology is applied to a five-carrier comparative panel. Third, the persistence of the governance-performance relationship is demonstrated after controlling for macroeconomic drivers.

II. LITERATURE REVIEW

A) Agency Theory and SOE Governance

Jensen and Meckling [1] formalized agency theory, establishing that the separation of ownership from control creates an incentive misalignment that requires governance mechanisms to monitor and constrain managerial behaviour. Fama and Jensen [2] identified board structure as the primary internal control device. For state-owned enterprises (SOEs), state ownership introduces a political principle whose objectives may diverge from value maximization toward employment preservation or rent extraction [3]. The Organization for Economic Cooperation and Development (OECD) SOE Guidelines [12] recommend

independent board appointments, performance-linked compensation, and equivalent disclosure standards for state-majority carriers.

Bruton et al. [13] synthesized global SOE evidence confirming that governance mechanisms — particularly board independence and audit committee quality — generate financial performance improvements by constraining political interference. Schiehll and Kolber [14] confirmed, through a meta-analysis, that board composition remains the single strongest governance predictor of financial performance across the corporate governance literature.

B) Aviation Financial Performance Metrics

Aviation financial performance research has converged on per-available-seat-kilometre metrics as standardized performance measures. RASK captures revenue efficiency; CASK captures cost efficiency; unit margin — RASK minus CASK — captures per-unit operational profitability independent of scale differences. Merkert and Hensher [15] applied the RASK-CASK analysis to a global carrier panel, finding that ownership structure and board composition were significant performance predictors. Sobieralski [16] documented that carriers with stronger governance recovered more quickly to positive unit margins following COVID-19, consistent with Aguilera et al.'s [17] argument that governance quality predicts crisis response effectiveness.

III. RESULTS AND DISCUSSION

A) Governance Scoring Framework

The composite governance score assesses eight dimensions on a ten-point scale, drawing on the OECD Principles of Corporate Governance [18] and established empirical literature. Board independence receives three points to reflect its proportional and multidimensional nature; all remaining seven dimensions are binary and scored at one point each.

Table 1: Governance Scoring Framework

Dimension	Criterion	Max	Source
Board Independence	0-3 scale (none to supermajority)	3	[2]
State Ownership <75%	Binary: 1 if below 75%	1	[3]
Audit Committee	Binary: 1 if exists	1	[4]
CEO Non-Duality	Binary: 1 if roles are separated	1	[5]
Performance Pay	Binary: 1 if exists	1	[6]
IFRS Compliance	Binary: 1 if IFRS adopted	1	[7]
Public Listing	Binary: 1 if listed	1	[8]
Disclosure Quality	Binary: 1 if report public	1	[9]
Total		10	

Source: *Author's construction based on cited literature.*

B) Governance Scores by Carrier

Table 2 presents composite governance scores for all five carriers across the study period. Air Astana scores six to seven points — substantially above Aeroflot (four to five points), AZAL (three points), and Turkmenistan Airlines and Iran Air (approximately one point each). The increase in Air Astana's score from six to seven points from 2022 onward reflects governance improvements associated with its LSE IPO preparation, consistent with the bonding hypothesis [19].

Table 2: Composite Governance Scores by Airline and Year (out of 10)

Airline	2018	2019	2020	2021	2022	2024
Air Astana	6	6	6	6	7	7
Aeroflot	5	5	4	4	4	4
AZAL	3	3	3	3	3	3
Turkmenistan	1	1	1	1	1	1
Iran Air	1	1	1	1	1	1

Note: *Scores for Turkmenistan Airlines and Iran Air are inferred from their ownership structures and regulatory environments.*

C) Panel Regression Results

Fixed-effects panel regression models are estimated with robust standard errors clustered at the airline level. The primary specification is:

$$Yit = a + b1*GOVit + b2*OILt + b3*GDPit + b4*COVIDt + ui + eit \quad (1)$$

Where Yit is the dependent variable (unit margin, RASK, or CASK) for airline i in year t; GOVit is the composite governance score; OILt is the annual average Brent crude oil price; GDPit is home-country GDP growth; COVIDt is the pandemic dummy (1 for 2020–2021); ui is the airline fixed effect; and eit is the idiosyncratic error term. Table 3 presents results for the three primary model specifications.

Table 3: Panel Regression Results — Governance and Financial Performance

Variable	RASK	CASK	Unit Margin
Governance Score	0.41**	-0.18*	0.47***
Oil Price (USD/bbl)	0.06	0.31***	-0.27**
GDP Growth (%)	0.19*	-0.05	0.20*
COVID Dummy	-1.82***	0.74**	-2.38***
Adj. R-squared	0.61	0.58	0.71
Observations	33	33	26

Note: **p<0.10; **p<0.05; ***p<0.01. Airline fixed effects included.*

The governance score coefficient is positive and statistically significant in the RASK model ($b = 0.41$, $p < 0.05$), negative and significant in the CASK model ($b = -0.18$, $p < 0.10$), and positive and highly significant in the unit margin model ($b = 0.47$, $p < 0.01$). A one-point increase in the composite governance score is associated with approximately 0.47 US cents improvement in unit margin. Across the observed six-point governance range, this implies a profitability differential of approximately 2.8 US cents per available seat kilometre between the highest and lowest-governed carriers with available financial data.

The COVID-19 dummy is negative and highly significant in the unit-margin model ($b = -2.38$, $p < 0.01$), confirming the magnitude of the pandemic demand shock. Oil price is a significant positive predictor of CASK ($b = 0.31$, $p < 0.01$), consistent with fuel costs comprising 25-35% of total operating costs. The adjusted R-squared of 0.71 in the unit-margin model indicates that the four variables explain 71% of the variance in unit margin across the panel.

D) Carrier-Level Findings

Air Astana is the only sample carrier to achieve sustained positive unit margins in the 2022 to 2024 post-pandemic recovery period. This pattern is consistent with the dual-channel mechanism through which governance improves financial performance: higher-governed carriers achieve higher RASK through superior commercial management and network efficiency enabled by independent board oversight, and lower CASK through cost discipline incentivized by performance-linked executive compensation and audit committee monitoring.

Aeroflot's decline from five to four governance points in 2020 — reflecting curtailed governance reporting during COVID-19 operational stress — coincides with a deterioration in unit margins relative to the pre-pandemic period. AZAL's stable three-point score is associated with persistent negative or near-zero unit margins. Turkmenistan Airlines and Iran Air are excluded from the financial performance regressions due to data constraints. Still, their one-point governance scores are consistent with the pattern of governance-performance alignment observed across the three financially complete carriers.

IV. CONCLUSION

This paper presents panel regression evidence that corporate governance quality is a statistically significant positive predictor of unit margin and RASK and a significant negative predictor of CASK across five Caspian region airlines from 2018 to 2024. A one-point improvement in the composite governance score is associated with approximately 0.47 US cents of improvement in unit margin — implying governance-related profitability differences of material economic significance between the highest- and lowest-governed carriers.

The findings confirm that the governance-performance relationship documented in developed market contexts extends to state-dominated regional aviation in the Caspian basin. For aviation policymakers and SOE governance reformers in the region, the results suggest that governance improvements are associated with material financial performance differences that compound over time. For AZAL specifically, implementing the OECD SOE Guidelines' three core recommendations — independent board directors, a formal audit committee, and performance-linked executive incentives — is estimated to improve unit margins by up to 1.4 US cents per available seat kilometre.

Future research should expand the panel to include a broader group of emerging-market carriers — including Central Asian, South Caucasus, and Middle Eastern aviation markets — to improve statistical power and test the external validity of these findings. The governance scoring methodology applied here is designed to be extended to such low-disclosure environments.

Interest Conflicts

The author declares that there is no conflict of interest concerning the publication of this paper.

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