



From Cost Efficiency to Economic Efficiency: The Mediating Role of Economic Efficiency on the Privatization of Government Airports and its Contribution to Economic Growth

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Abstract:

The privatization of public airport facilities constitutes a strategic initiative aimed at enhancing airline operational efficiency and reducing financial expenditures, thereby fostering economic growth. While cost efficiency remains the primary objective in most privatization efforts, its long-term economic implications remain limited unless economic efficiency is systematically incorporated. This study explores the role of economic efficiency as a mediating factor that links cost efficiency and the success of airport privatization with broader economic growth benefits. Employing Public Choice Theory, Transaction Cost Economics, and Principal-Agent Theory as theoretical underpinnings, this research analyzes the impact of privatization on economic value creation and short-term financial performance through cost-reduction strategies such as outsourcing and Total Quality Management. Using a mixed-methods approach, this study assesses the extent to which economic efficiency influences investment levels, employment generation, and infrastructure development in privatized airports. The findings suggest that while cost efficiency enhances operational effectiveness, economic efficiency plays a crucial role in ensuring sustained economic progress. Privatization, therefore, facilitates broader economic gains by leveraging economic efficiency strategies, aligning short-term cost savings with long-term economic advancements that benefit both airport operators and industry stakeholders.

1. Introduction

1.1 Background and Context

Global trends for state-controlled airport privatization came about as politicians are eager to maximize performance while introducing investments from the private sector in a move to improve performance economically. Government regulators worldwide are confronted with budget limitations alongside rising infrastructure demands, prompting them to move towards public sector-controlled strategies based on expert capacities in the private sector. Cost efficiency is still at the core reason for privatization when governments are in need of cutting down running costs and quality improvement in service delivery. The sustainable nature in the long term for creating economic value in privatization greatly depends on ensuring

maximum economic efficiency. Efficient use of resources, improvement based on innovation, and investments in long-term human resource and infrastructure are aspects of economic efficiency. Privatization-based airport management is a feature in a domestic economy plan for creating competition globally based on harmonized policies in the economy. Revising cost efficiency for economic efficiency is pivotal in defining the form of privatization in the aviation sector.

1.2 Problem Statement

The underlying intent in cost efficiency in airport privatization does not translate to sustainable economic growth if equal weight is not accorded to economic efficiency. Cost cutting is a prime target for much airport privatization programs in forms such as manpower cuts, businesses, and

streamlining implementations. The financial savings resulting in cost cutting have little impact on total economic benefits such as investments and increased connectivity and productivity. The biggest hindrance is defining how economic efficiency creates the bridge between cost cutting and privatization successes. Effective use of financial funds, technology tools, and human expertise makes organizations achieve peak economic performance beyond cost cutting. Poor management of economic efficiency in privatized airports will result in these facilities becoming unable to maintain continuous economic development, and it may produce a decline in service quality, infrastructure underinvestment, and monopolistic practices. Airport privatization research must investigate how economic efficiency functions as the connection between cost efficiency and economic development.

1.3 Research Questions

The investigation into airport privatization through economic efficiency mediation requires analysis of these specific research questions:

1. How does cost efficiency impact the privatization of government-owned airports?
2. What is the mediating role of economic efficiency in the transition from cost efficiency to economic growth?
3. What are the long-term economic benefits of privatization in the airport sector?

The study investigates questions concerning the effects of cost-saving methods on privatization practices by using economic efficiency as the determining factor of their success. The research aims to establish the mechanisms by which economic efficiency drives the economic performance enhancement of privatized airports.

1.4 Research Objectives

The investigation aims to understand the connection between cost efficiency and airport privatization results, focusing on economic efficiency as an intermediary factor. Specifically, this study aims to:

1. To examine the impact of cost efficiency on operational and financial performance in privatized airports.
2. To investigate how economic efficiency facilitates sustainable economic outcomes beyond cost savings.
3. To assess empirical case studies of privatized airports to identify best practices and challenges in achieving economic efficiency.

The research achieves its goals by showing a better understanding of maximizing privatization strategies through efficiency-cost and economic benefit integration. This research will aid in finding successful policies that guarantee airport privatization success.

1.5 Significance of Study

The insights derived from this study hold significant relevance for policymakers, financial stakeholders, and scholars within the field of business management. The findings offer a foundation for policymakers to formulate data-driven privatization strategies that enhance economic efficiency while mitigating risks associated with infrastructure underinvestment and market monopolization. For investors and airport operators, this research provides a framework for understanding the role of economic efficiency in optimizing both profitability and service standards. Furthermore, the study contributes to the academic discourse by enriching existing literature on privatization dynamics, emphasizing economic efficiency as a central mediating factor. By examining the intersection of globalization, technological advancement, and public sector transformation, this research establishes a comprehensive evaluative model to assess the implications of airport privatization.

2. Material and Methods

2.1 Theoretical Framework and Literature Review

2.1.1 Conceptualizing Efficiency in Public Sector Management

The fundamental Concept of efficiency stands vital for public sector management, specifically during privatization initiatives. The success of government airport privatization depends heavily on two main efficiency categories: cost efficiency and economic efficiency. An organization succeeds when it decreases operational costs without compromising service quality. Airports sector organizations use workforce optimization, process automation, and strategic outsourcing as primary strategies (Cui & Aulton, 2023). Government institutions aim to decrease airport operational expenses to create better financial strength in their operational models. The exclusive focus on cost efficiency creates problems because it fails to produce automatic long-term economic gain. Economic efficiency is the vital ingredient in this situation. The use of available resources in efficient manner is reached at

the level of economic efficiency in achieving a maximum output in sustainable avenues in economic development. The measure for measuring economic efficiency is better than cost efficiency in targeting airport benefits in creating jobs and generating economic activity and in enhancing infrastructure development as well as increased connectivity in aviation (Negri & Gheorghita Dincă, 2023). Strategic investments for airport growth, along with technology adaptations and service quality improvements directed toward global airline attraction, enable increased passenger numbers during airport privatization processes. Moving toward economic efficiency in privatized air facilities demands proper policies and a strong regulatory presence. Allowing a privatized airport to cut costs exclusively without technological development and capacity growth will undermine long-term operational success (Negri & Gheorghita Dincă, 2023). Economic efficiency demands balancing profitability and service quality because it prevents privatized facilities from restricting accessibility or developing monopolistic traits.

The primary motivation for airport privatization begins with achieving cost efficiency, yet economic efficiency determines lasting success measures. Policymakers should create privatization structures combining these two priorities since short-term budget benefits must lead to lasting economic value (Negri & Gheorghita Dincă, 2023). An adequately designed regulatory system for the aviation sector links the profit motives of private operators with public interest objectives because it manages the relationship between expenditure control and economic productivity. The lack of such an approach diminishes the full potential of airport privatization because it creates subpar economic results even after initial cost reductions.

2.1.2 Theories on Privatization and Economic Growth

The privatization of state-owned airports is grounded in economic and management theories that elucidate the rationale, execution, and outcomes associated with transitioning public infrastructure to private entities. Several foundational theoretical perspectives provide insight into how privatization influences economic efficiency and contributes to overall economic advancement. Among these, Public Choice Theory serves as a particularly relevant framework, as it highlights the inefficiencies inherent in public institutions due to bureaucratic inertia and political interference. Privatization aligns with the theoretical premise that market competition thrives when businesses prioritize profitability, driving

efficiency and innovation in privately managed enterprises (Leeson & Thompson, 2021). Consequently, the shift toward private airport operations is expected to enhance service quality, reduce costs, and stimulate investment, thereby fostering regional economic growth.

Transaction Cost Economics (TCE) provides a major paradigm for identifying costs involved in managing and coordinating aspects of economic activity. The complexity in governance and lack of profit-based incentivization in state-owned airports translate to increased transaction costs (Nagle et al., 2020). By way of privatization, airports reduce their transaction costs as they adopt market-based managerial processes. TCE identifies that economic efficiency threats are created by potential monopolistic prices and regulation failures when privatization governance does not efficiently operate. Alternatively, government authorities as principals and airport managers hired by the government as agents are comprehensively explained in Principle-Agent Theory. According to the theory, agency discrepancies due to structures and long-run economic profits create inefficiencies as the short-run financial profits may be prioritized (Shrestha et al., 2019). Government authorities must design contracts and apply reward and monitoring mechanisms based on performances to ensure that airport managers hired by the government operate towards national objectives and not budget cuts.

Macroeconomic analysis using Endogenous Growth Theory portrays the function of airport privatization towards sustainable economic growth. Efficient operation of privatized airports results in economic benefit as it increases the level of productivity and injects foreign capital investments and new employment opportunities (Arjun et al., 2020). It opens up opportunities for the improvement in technology and for innovation in the process. Economically efficient operation results in another advantage in the form of increased connectivity and increased trade, contributing towards the overall positive impact of such theories. The combined force of such theories gives rise to a thorough comprehension of causes and implications of airport privatization (Drakic, 2024). The performance of privatized schemes is based on good planning, appropriate regulations, and achieving broader economic targets.

2.1.3 Cost Efficiency in the Airport Sector

Airports increasingly turn to privatization primarily to enhance cost efficiency, driven by governmental objectives to reduce expenditure without compromising service quality. In the airport

industry, cost optimization is typically attained by employing outsourcing strategies alongside lean management principles and total quality management (TQM). Outsourcing, in particular, has emerged as a prevalent approach among airport operators aiming to significantly cut costs. Airports considerably decrease labor-related expenses by contracting third-party firms for essential operational activities, such as ground handling, maintenance, and security services, effectively lowering both operational and payroll expenses (Twin, 2024). However, Berger highlights that excessive reliance on outsourcing can result in operational challenges, disrupting service integration, undermining quality control mechanisms, and consequently producing unfavorable impacts on passenger experience and operational reliability.

Implementing lean management enables airport operations to become more efficient through operational streamlining techniques that minimize waste occurrence. Through lean principles, airports find ways to manage successful passenger journey paths and reduce operation periods while effectively managing resources (Demir & Paksoy, 2021). Privatized airports utilize automated check-in systems, biometric screening, and self-service kiosks to decrease labour costs and boost operational efficiency. Predictive maintenance, along with data analytics, serves and data analytics are essential tools that reduce costs and minimize downtime duration.

Total Quality Management represents an essential cost-efficiency strategy, concentrating on constant improvement while maintaining customer-oriented operations. TQM practices depend on data-based choices combined with employee-strengthening and standardized processes to improve service quality and decrease operational waste. Total Quality Management systems implemented across airports enable efficient operations and maintain passenger satisfaction through balanced trades of operational excellence and quality guarantees (Baha et al., 2024). The benefits of cost efficiency in airport privatization do not ensure sustainable long-term success for the operation. The quick financial aid and operational enhancements do not automatically yield enhanced broader economic development. Privatized airports' single-minded pursuit of cutting costs could lead them to ignore future investments, preventing them from adequately developing their infrastructure and staff and upgrading their technology (Henke et al., 2021). The complete utilization of privatization gains requires cost-efficient measures to work in unison with an economic efficiency plan that drives continued growth and economic output.

2.1.4 Economic Efficiency as a Mediator

Economic efficiency leads to expanded airport privatization benefits by establishing longer-term economic value contributions. The immediate financial performance aspect of cost efficiency meets economic efficiency requirements, which optimize resource use to create maximum benefits through investment growth and job creation, as well as by improving existing infrastructure (Wei et al., 2024). Efficient operations in a private airport create economic expansion opportunities through better air connectivity and business attainment while increasing regional market positions. Privatized airports reach economic efficiency through investments in modern technologies, airport expansions, and sustainable practices that advance long-term growth. Modern solutions at many privatized airport locations utilize automated air traffic control systems, digital passenger management, and green airport programs to improve operational efficiency and promote sustainability.

Foreign direct investment (FDI) is propelled by economic efficiency. Multinational businesses, logistics providers, and airlines use airports as hubs when managing them is efficient, thus enhancing connectivity for surrounding areas. The use of this process creates jobs and expands the economy. Privately operated, privatization creates economic efficiency, creating a virtuous circle for three major spheres of businesses: m and real estate and tourist markets (Wei et al., 2024). Reaching economic efficiency necessitates harmonized policies and active governance control of organizations in privatization. Wherever public priorities are below profit targets in privatized airports, the implications are higher airport prices, downgraded service quality, and market control resulting from monopolistic behavior (Wei et al., 2024). The state should formulate governance frameworks ensuring airport privatization is in line with economic targets while fulfilling profitability targets and public accessibility requirements.

Economic efficiency is what ensures cost efficiency and economic growth are compatible, translating savings in operations to sustainable economic outcomes. Successful use of strategies for privatization transmutes cost optimization to longer-term economic successes.

2.1.5 Case Studies of Airport Privatization

An analysis of airport privatization cases provides valuable insights into the relationship between cost efficiencies and economic outcomes. Several international airports have implemented

privatization approaches, yielding varied outcomes that carry significant implications for policymakers and investors. Notably, the British Airports Authority initially privatized London Heathrow Airport, which was subsequently acquired by a private consortium. Under private ownership, substantial investment facilitated the construction of a new terminal and comprehensive modernization of existing facilities at Heathrow (Graham, 2020). Adopting private-sector managerial frameworks enhanced operational efficiency, reduced turnaround times, and improved passenger satisfaction. Nonetheless, Heathrow's consistently high traffic volumes prompted public concerns, highlighting the critical role regulatory oversight plays in ensuring equitable pricing structures. Heathrow's privatization exemplifies how leveraging private-sector capital, driven by economic efficiency, can sustainably enhance infrastructure development and the growth of global air routes.

The British Airports Authority privatized London Heathrow initially before it was acquired by a private consortium. Upon privatization, the airport operators invested in the construction of a new terminal and the improvement of existing infrastructure at Heathrow (Graham, 2020). Continued investment in the airport has kept it as one of the world's busiest international airports, with improvements in infrastructure making the passenger experience better, operations more efficient, and the economic output higher.

Over the past few years, Heathrow has remained a target for international infrastructure investors. In November 2023, infrastructure investor PIF and Ardian announced that they planned to acquire Ferrovial's stake in London Heathrow Airport, which stands at 25%, for approximately \$3 billion. In January 2024, other Heathrow shareholders invoked their tag-along rights, with the aim of selling a combined stake in the airport equal to 35% for approximately \$4.1 billion (Scribner, 2024). This implies that Ferrovial must sell the 35% stake before it proceeds with its sale to PIF and Ardian. This has raised skepticism regarding the completion of the Heathrow deal, with Ferrovial stating that "there can be certainty" that the deal would be concluded. The ongoing financial action at Heathrow reflects the strategic importance of the airport in the international airline industry as well as the ongoing attraction that privatization has for large-scale institutional investors. The investments ensure ongoing growth, making Heathrow an essential component of the transportation infrastructure in the UK.

Sydney Airport became a privately owned entity after the government transferred ownership in 2002.

The privatization plans received investment from international entities that used the incoming capital to develop more airstrips and modernize terminal facilities. Sydney Airport increased its economic efficiency through data-driven improvements incorporating predictive maintenance systems alongside technologies that optimized passenger flow (Howell et al., 2022). Privatizing the airport accomplished better financial outcomes and produced extensive economic advantages through new job creation and increased tourism activity. Concerning privatization, concerns developed regarding monopolistic pricing powers; thus, regulatory structures became essential for controlling market dominance.

In contrast, Argentina's airport privatization initiative in the late 1990s experienced mixed outcomes. The initiative first cut down state spending for expenses, yet certain privatized airports faced difficulties because owners failed to improve infrastructure and service quality (Reuters Staff, 2024). The regions failed to achieve economic efficiency goals, resulting in unpredictable airport performance standards. The Argentine example clarifies that privatization methods require consistent economic planning to stop investors' lack of interest and the degradation of maintenance quality. The current case studies prove that privatized sectors need economic efficiency as a key factor to deliver enduring economic results from privatization strategies. The complete potential of airport privatization becomes achievable through proper planning and sector investment under regulatory guidelines.

2.1.6 Gaps in Literature

Literature research on airport privatization continues to have several knowledge shortages, particularly in understanding how economic efficiency affects these initiatives. Current research mainly explores the direct link between privatization and cost efficiency, except for its collective implications on economic growth and future infrastructure development. The current literature gap hinders policymakers and researchers from understanding how privatization shapes macroeconomic results. Researchers have identified a crucial limitation in the current literature because longitudinal studies should investigate how privatization affects economic efficiency throughout the long term. Studies frequently measure improved cost efficiency right after privatization, yet they do not monitor whether the effectiveness stays constant. Research over multiple years is needed to verify if privately managed airports maintain capital investments while

expanding their workforce capabilities and adopting innovative technology throughout long timeframes. The current literature falls short because it does not sufficiently analyze how effective regulations operate in privatized airport management systems. Few research studies show appreciation for regulatory oversight, yet they do not analyze how different oversight systems affect economic efficiency. Price controls set by governments affect whether private investors will make business deals. What yields the most effective methods to preserve financial success without compromising universal airport use? Analyses of these questions will help better understand the policy tools that better understand the policy tools that would lead to optimal economic performance within privatized airport sectors. Research studies lack sufficient investigation into the variations between privatization results in different locations. Research about airport privatization primarily studies major case studies within developed economies, including the United Kingdom, Australia and the United States. Developing nations face distinct financial and market governance issues that researchers have insufficiently examined when studying privatization. Research into airport privatization should compare economic systems to understand best practices while evaluating potential risks.

The paper does not sufficiently explore the impact of technological innovation on how privatized airports improve their economic efficiency. Researchers must investigate how automation, artificial intelligence, and digitalization affect economic efficiency when models follow privatization practices. Analyzing these gaps would help create better comprehensive discussions about airport privatization and its economic effects.

2.2 Research Methodology

2.2.1 Research Design

The research design combines qualitative and quantitative investigation methods, delivering a rough regulation of airport privatization quantitative investigation methods and quantitative data to collect statistical airport performance data and first-hand insights from essential stakeholders. The research employs case study analyses on selected privatized airport facilities as its qualitative inquiry. Case studies provide essential insights into airport privatization by analyzing detailed examples of cost and economic efficiency dynamics at work. The study employs specific cases to detect key elements of privatization, obstacles, and practical strategies to link research outcomes to actual airport operations. The research examines airports that

moved under private management successfully and facilities that encountered problems achieving economic efficiency goals. The research chose case studies based on three factors: geographic spread, period of privatization, and access to operational and financial records.

The study analyses numerical Airport performance indicators, including operational expenses revenue, expansion capital, investments, employment statistics, and passenger volume data as the fundamental data set. Through quantitative assessment, researchers obtain objective measurements for both cost efficiency and economic advantages of privatization initiatives. The research examines privatized airport performance by comparing public and private airport operations. The research methodology combines various quantitative and qualitative methods to study airport privatization comprehensively because it allows the assessment of the effects of financial and economic performance. Several integrated research methods make this study more valid because the different data types reduce biased interpretation through triangulation techniques.

2.2.2 Data Collection Methods

The research draws secondary and primary data collection information to create and comprehensively evaluate privatized airports. The study depends heavily on secondary data because it supplies essential historical evidence and empirical findings about the subject. The research uses academic journals, governmental reports, industry publications, and financial statements as essential data types. Peer-reviewed articles from databases such as Google Scholar, ScienceDirect, and JSTOR offer valuable research on airport privatization, cost efficiency, and economic performance. Regulatory bodies such as the International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA), together with the European Union Aviation Safety Agency (EASA), release vital government reports that deliver crucial policy information and economic data, including regulatory standards and industry development patterns. The Airports Council International (ACI), the International Air Transport Association (IATA), and private consultancy reports deliver specialized information regarding airport financial outcomes and operational effectiveness movements. The evaluation gains momentum through detailed information documented in annual financial statements from privatized airports, which display data about revenue transformation alongside operational expense patterns and capital

expenditure metrics with post-privatization profit shifts.

This study aims to gather specialized data through semi-structured interviews conducted with key decision-makers in aviation-related entities. Participants selected for analysis include governmental policymakers involved in privatization processes, senior airport management officials responsible for subsequent strategic implementation, and executives from privately managed airports who will offer insights into financial performance and investment methodologies. Additionally, industry specialists from diverse sectors will independently evaluate the progress and operational efficiency of privatized airport facilities. Interview discussions will address motivations behind privatization initiatives, challenges associated with achieving economic efficiency, investment decision-making processes, and regulatory considerations inherent in privatized entities. Should primary data be unattainable, the research will leverage multiple secondary data sources to ensure comprehensive and rigorous analysis. Ultimately, the integration of primary and secondary data aims to facilitate an extensive examination of the influence that airport privatization exerts on overall operational performance and economic efficiency indicators.

2.2.3 Data Analysis Techniques

The study uses a combination of qualitative and quantitative data analysis approaches to analyze the gathered data properly. Thematic analysis will interpret both case study results and interview information for the qualitative research section (if data collection through interviews was feasible). Thematic analysis serves as an approach to discovering predictable patterns in qualitative information and analyzing those findings via reporting structures. Researchers start by familiarizing themselves with reviewing case study reports and interview transcripts to identify the main themes. The researcher assigns specific labels to patterns which emerge during theme analysis about cost efficiency eco, nomic efficiency, and economic growth in privatized airports. The researchers place coded data into larger groups, which include operational improvements, investment strategies, workforce restructuring and policy impacts. The researchers evaluate economic efficiency relationships by interpreting collected data themes that help them understand efficiency linkages to economic benefits.

The researchers will analyze quantitative data with descriptive and inferential statistical tests. A summary of numerical data from privatized airports

will demonstrate patterns between cost efficiency and revenue generation, infrastructure expenditure and passenger increase. The research compares performance data sets between airports under government control and those driven by private management to evaluate privatization outcomes. A regression model will establish any relation between enhanced cost efficiency and economic indicators such as infrastructure investment and employment development. Correlation analysis will measure both the magnitude of the relationship and the economic impact of cost efficiency on economic efficiency and its influence on economic growth.

Using thematic analysis combined with statistical models allows this study to deliver qualitative and quantitative assessments of airport privatization. The research design incorporates qualitative findings with empirical hypothesis testing so researchers can develop an extensive comprehension of the financial side of airport privatization.

2.2.4 Reliability and Validity

To enhance research rigour, several methodological measures will be adopted to ensure the reliability and validity essential for maintaining the study's credibility. Specific selection criteria will guide the choice of documented airport privatization cases, thereby establishing robust research subjects. The adopted methodology ensures outcomes derive from reputable sources accurately reflecting current industry conditions. Data triangulation will be achieved through the integration of academic literature, industry-specific reports, financial statements, and expert interviews. Validation procedures, involving cross-examination techniques, will minimize biases and foster credible conclusions supporting the study's outcomes. Methodological rigour will be preserved by systematically structuring both qualitative and quantitative analytical procedures. A standardized coding framework will be applied within thematic analyses to enhance qualitative data interpretation consistency. Quantitative analyses will incorporate statistically rigorous and robustness tests, reinforcing the reliability of results. Furthermore, the study will commit to transparent data interpretation by openly presenting comprehensive findings from original sources, thereby ensuring accountability and clarity. These methodological approaches collectively aim to yield precise and consistent findings across diverse cases, significantly advancing research within the domain of airport privatization.

2.2.5 Limitations of the Study

The research design displays robustness, but certain restrictions limit how findings and interpretations resonate with the study. The research faces a significant constraint because proprietary financial data remains unavailable. Privatized airports work under private ownership, restricting access to financial records and documents. The difficulty of obtaining detailed insights about costs and profitability exists because financial statements from public sources may prove insufficient. Biased reports issued by government and industry entities could affect the evaluation process. The documentation might use positive expressions about privatization and misrepresent private management's performance. Findings will be validated by conducting cross-reference research with academic investigations and independent publications to establish a fair comprehension of the matter.

Each context shows different characteristics of regulation and economics that affect the analysis. The different structures of airport privatization between countries create obstacles when attempting to draw global conclusions. The study minimizes this problem by selecting different airport case studies representing varied economic and regulatory conditions. The decision to collect primary data could lead to difficulties when conducting interviews. The unwillingness of stakeholders to divulge sensitive information restricts the level of qualitative information that can be obtained. The study will use available expert interviews together with industry publications to supplement its existing qualitative findings. The study acknowledges these limitations to achieve realistic results interpretations and propose further research approaches for solving these difficulties.

3. Results and Discussions

3.1 Impact of Cost Efficiency on Airport Privatization

Airport privatization prioritizes cost efficiency because governments want lower expenses and stable financial operations. Private airport management leads to shorter workforces, rational simplification, and diminished bureaucratic obstacles in the near term. Private operators implement contemporary management techniques, automation, and lean operational methods, leading to short-term cost reductions (Hargrave, 2023). Outsourcing essential airport maintenance and ground services to outside firms leads to

operational enhancement from expert partner input with eliminated fixed staff expenses.

The economic advantage of efficient airport management in privatized airports is reflected in increased profits, optimal resource utilization, and quality service improvement. Privately owned airports, with the changeover from public utility, always achieve increased operational output as well as increased customer satisfaction through the use of competitive service models (Hargrave, 2023). In the period between the years 1996 and the year 2019, private equity invested \$388 billion in airports all over the world, leveraging an additional \$300 billion in capital investment (McMaster, 2023). The investments have led to significant airport performance improvement, with private-owned airports experiencing increased net operating income through airline fees as well as terminal retailing income.

Private equity-operated airports, as compared to non-equity private airports, have posted the biggest financial returns due to their efficiency in international best practices, high-powered incentive pay structures, and efficient capital allocation leading to their success. Privatization at Sydney Airport and London Heathrow enabled rapid financial growth following substantial investments by the owners in operational restructuring and strategic growth projects. Similarly, Canada's Vantage Airport Group has privatized successfully 20 airports that were formerly publicly owned, demonstrating the uniform benefit that privatization has brought to the airport industry (McMaster, 2023). Further, the implementation of automated data systems and process automation in privatized airports has removed delays in security checks, baggage handling, and customer service operations, making the operations more efficient and the passenger experience enhanced.

Initial financial relief arrives through cost efficiency, yet sustainability problems develop in the long run. Telecom providers that excessively cut costs demonstrated insufficient infrastructure spending combined with (worker) force reductions, resulting in service diminishment and elevated passenger charges. Success in privatization depends on proper management because improper implementation leads to service decline and undesirable market control by private companies which seek short-term gains instead of long-term development (Radic et al., 2021). Privatized airports sometimes experience broad public criticism because of their increasing customer service costs, employee conflicts, and diminished flight access points. The main obstacle in reaching economic growth while reducing costs is finding the correct middle ground between spending cuts

and reinvestment measures. Private management operators should invest strategically in infrastructure modifications and workforce improvement programs besides performing expense reductions (Radic et al., 2021). When privatization operators fail to reinvest their cost-efficiency savings, the short-term profit benefits will not create lasting economic value, which opposes privatization targets. Public authorities should oversee airport privatization activities to prevent harmful practices and uphold economic growth and public welfare benefits. The success of airport privatization through cost efficiency requires combined efforts with a comprehensive economic framework concentrating on balanced long-term development instead of only short-term savings.

Table 1. *Impact of Cost Efficiency on Airport Privatization*

Aspect	Description
Cost Reduction Techniques	Short-term workforce reductions, lean operations, and outsourcing of airport services (maintenance, ground services).
Operational Benefits	Increased operational efficiency through automation, lean methods, and external partnerships for essential services.
Financial Gains	Improved profits, targeted resource distribution, and better service performance. Privatized airports show better operational output and higher customer satisfaction.
Challenges	Sustainability issues arise as cost-cutting may hinder investment in long-term infrastructure and lead to underdeveloped services. Public criticism may emerge.

Table 1 delineates how cost savings achieve short-term financial relief and better performance in airport privatization. It shows the major mechanisms utilized (workforce reduction, automation, and outsourcing) and short-term payoff and discusses concerns for long-term sustainability created as a result of cost cutting at the expense of strategic investments.

3.2 Economic Efficiency as a Mediator

Economic efficiency serves as the essential bridge enabling organizations to transition effectively from their cost reduction objectives to enduring economic benefits. Primarily, economic efficiency focuses on maximizing resource allocation value through optimal productivity, supported by strategic investment and sustained innovation. Conversely, cost efficiency exclusively emphasizes expense minimization (Wei et al., 2024). Empirical

studies indicate that the privatization of airports successfully employs both cost management strategies and mechanisms aimed at economic efficiency to achieve sustainable economic growth. At major airports such as London Heathrow, Hong Kong International Airport (HKIA), and Singapore Changi Airport, economic efficiency effectively mediates the outcomes derived from cost reduction initiatives. Heathrow Airport initially achieved cost efficiency by reducing employee numbers and outsourcing specific operations. However, sustaining long-term airport performance demands continual investment in infrastructure upgrades, technological advancements, and expansion projects, significantly enhancing overall economic efficiency. Singapore Changi Airport has maintained its global prominence through development strategies centered on innovation rather than mere fiscal reductions.

At Hong Kong International Airport, economic efficiency has played a crucial role in sustaining its leading position in air transportation and financial stability, particularly amid the ongoing recovery of the global economy. Air traffic recovery at HKIA has been substantial, with passenger volumes reaching approximately 80% of pre-pandemic levels during peak travel periods, and a full recovery is projected by the end of 2024. Furthermore, HKIA retained its status as the world's busiest cargo airport in 2023, recording a 9.1% increase in cargo volume, thereby contributing around 48% of Hong Kong's external trade value (Hong Kong International Airport, 2024). This continued dominance in cargo operations, coupled with growing passenger traffic, flight frequencies, and elevated revenues from airport and security charges, airside ancillary services, and retail concessions, resulted in a remarkable year-over-year revenue growth of approximately 66.5%, totaling HK\$13,683 million for fiscal year 2023/24 (Hong Kong International Airport, 2024).

The economic efficiency has also contributed to the financial stability of the airport, enabling it to deal with the capital markets successfully. Since 2022, Airport Authority Hong Kong has raised US\$2 billion in Green Bonds, affirming its commitment to sustainable infrastructure growth. Having the support of an AA+ credit rating by Standard & Poor's Global Ratings (S&P), HKIA successfully raised HK\$4 billion in public bonds through institutions in January 2024. In addition, the issuance of HK\$5 billion in HKIA retail bonds, subscribed by the public 2.1 times, became the first case in over two decades that the public directly invested in airport development. These financial plans ensured continued investments in the growth

of infrastructure and technology, ensuring HKIA's long-term success in the international aviation market.

Successful privatization of airports demands airport owners to cease their initial emphasis on expense cutting in favour of value generation. Privatized airports begin restructuring through automation while employing lean management and outsourcing programs to lower operational costs (Howell et al., 2022). Maintaining economic efficiency demands investments toward modernization and expanding capacity and service enhancements. Airports introducing advanced air traffic management bio, metric security screening, and innovative baggage handling systems achieve sustained operational and customer-friendly improvements. The capacity of economic efficiency allows private airport operators to draw international investors, link up with airlines, and establish better connections throughout their service region. Privatized airports create job markets through investments, enabling trade progress and tourism industry development (Howell et al., 2022). Airing facilities that maintain solely cost-cutting approaches will face limited development since their financial efficiency does not deliver broader economic improvements.

Implementing regulations is fundamental to maintaining economic efficiency, a primary goal within privatized airports. The absence of proper oversight allows privately owned facility operators to focus on maximum financial gains instead of reinvestment, resulting in service degradation and higher passenger expenses (Slava Cheglatonyev, 2024). Public-private partnerships (PPPs) establish a successful mechanism which integrates business profits with governmental oversight for optimal service delivery. The study demonstrates that economic efficiency serves as an essential mechanism in the process of airport privatization. The base of financial stability depends on cost efficiency, and economic efficiency drives sustainable performance, market competition, and favourable national economic growth. Governments and private stakeholders need to implement policies encouraging reinvestment while fostering technological progression and market competition for the maximal achievement of airport privatization benefits.

3.3 Contribution of Economic Efficiency to Economic Growth

Dubai International Airport stands as a beacon for the contribution economic efficiency in airport operations makes towards economic growth which can be achieved through investments and privatization. Dubai's aviation sector—which

includes Emirates Group, Dubai Airports, and other related businesses in the aviation sector—injected AED 137 billion (USD 37.3 billion) in gross value added (GVA), or 27% of Dubai's gross domestic product, in the year 2023 (Emirates, 2024). This includes AED 94 billion in core aviation operations and AED 43 billion in tourism enabled by the aviation sector. The industry also supported employment for 631,000 jobs, or one in every five jobs in the emirate, with projections indicating that the figure would increase to 816,000 jobs by the year 2030 (Emirates, 2024). This growth supports findings that airport privatization drives economic growth through capital investments, increased connectivity, and increased job creation in the sectors of construction, aviation services, and maintenance businesses. Dubai International Airport's growth, facilitated through massive private capital, has cemented the airport's position as a leading international airport, supporting the broader economic contribution of aviation-driven growth.

Dubai International Airport is an ideal model for economic efficiency in airport operations as an economic growth driver through investments. Economic efficiency practices enhance air traffic control, decrease congestion, and develop more efficient routes, which in turn increase international trade and tourism (Emirates, 2024). According to Emirates (2024), Dubai's aviation sector, which includes Emirates Group, Dubai Airports, and other associated aviation businesses, contributed to a gross value added (GVA) of AED 137 billion (USD 37.3 billion) in the year 2023, representing 27% of the emirate's GDP. This includes AED 94 billion in core aviation operations and AED 43 billion in tourism supported by aviation. The industry also supported employment for 631,000 jobs, equivalent to one in five jobs in the emirate, with projections indicating an increase to 816,000 jobs by the year 2030.

The economic efficiency standard enables better connections between destinations along with faster trade operations. Economic efficiency practices help airports enhance air traffic management while decreasing congestion levels to establish better route networks, strengthening the performance of international trade and tourism sectors (Calvet, 2024). Event efficiency in airports naturally draws primary aviation carriers and generates rising customer volumes and enhanced cargo movement, thus sustaining economic globalization. Hong Kong International Airport utilized its privatized structure to become a top-rated global cargo centre supporting worldwide merchant flows throughout Asia and beyond. Through economic efficiency, the airport sector generates new job opportunities,

which creates growth for the entire region. Airport facilities drive the economic development of their nearby areas by establishing thriving markets for retail and hospitality logistics-related sectors, creating employment and tourism income (Calvet, 2024). Privatized airports with efficient management systems operate training frameworks that build the expertise of their staff, leading to enhanced economic robustness.

The economic expansion potential will be achieved through government policies, market competition, and continuous investment strategies. To sustain economic efficiency following privatization, airport profits must be used for continued long-term development initiatives (Sadeh et al., 2020). Economic efficiency is the principal factor enabling prolonged economic growth after airport privatization. The success criteria encompass monetary returns and demonstrate their worth through infrastructure expansion, worldwide transportation opportunities, and social and economic impact beyond airport boundaries.

Table 2. *Contribution of Economic Efficiency to Airport Growth*

Factor	Impact on Economic Growth
Investment in Infrastructure	Privatized airports attract substantial private investment for expansion projects (e.g., new terminals, extended runways).
Job Creation	Creation of new jobs in construction, aviation services, and maintenance, boosting the regional economy.
Air Connectivity	Enhanced connectivity and better air traffic management that boosts trade, tourism, and regional economic performance.
Sustainability	Economic efficiency promotes long-term growth through sustainable practices, innovation, and modern technology.

Table 2 presents how economic efficiency, when utilized in tandem with airport privatization, contributes to sustainable economic progress in the longer term. It presents investments in infrastructure, improved jobs, improved air connectivity, and sustainable practices, each providing broader economic benefit for the region and for the nation as a whole.

3.4 Challenges in Achieving Economic Efficiency

The achievement of successful airport privatization depends heavily on economic efficiency, but various obstacles prevent it from being completed. The success of airport privatization faces essential

barriers because of regulatory limits, monopolistic market practices, and requirements for policy oversight and governance. The realization of extended advantages for investors and the public demands resolving these present obstacles (GOV.UK, 2019). Airport privatization faces major hurdles because aviation operates under strict government regulations that control this industry. The administration requires strict rules that control pricing methods, operational requirements, and competitive standards to protect safety measures and maintain fairness and accessibility. Consumer protection regulations limit private operators' ability to carry out cost-saving innovations or infrastructure improvements because they impose numerous restrictions on their operations (GOV.UK, 2019). Airline slot allocation constraints that government establishments impose constrain the ability of private businesses to develop expanded operations or implement modern efficiency measures such as new technologies. Implementing price caps on landing fees and passenger charges might discourage private operators from investing in future development projects because it reduces their financial motivation.

The main worry about airport privatization is that private operators may operate as monopolies. Natural monopoly features at airports create limited competitive options that make privatization undesirable because owners may focus on maximizing profits at the expense of providing affordable, high-quality service (Czerny, 2024). In normal circumstances, private operators maximize quick financial gains through excessive ticket fees and less investment in capital advancements. The aviation industry suffers through elevated travel prices, diminished services, and constrained airline market competition because of privatization. When privatization occurs, the absence of proper regulatory mechanisms might create operational impracticalities that run against intended enhancements. Developing policy oversight and governance systems is essential in guaranteeing advantages for investors and the public sector during privatization. The governing body creates essential frameworks that protect market equality, spur facility investments, and defend customers from unreasonable treatment (Ruiz Rivadeneira & Schuknecht, 2019). Public-private partnerships adopted with moderation will bridge investor profit objectives with comprehensive public service requirements. Performance-based contracts and clear regulatory policies represent critical governance elements to prevent market failures. Partnerships connecting governmental authorities to regulatory organizations and private investors

resolve these difficulties. Stakeholders who establish growth-oriented privatization frameworks will achieve economic efficiency and affordable, accessible, and competitive air travel.

4. Conclusions

4.1 Summary of Key Findings

Empirical proof exists to confirm that economic efficiency is pivotal in ensuring good performance in airport privatization. The principle of economic efficiency helps in ensuring sustainable airport growth but cost efficiency helps in ensuring short-run financial performance in reducing expenses. Evidence in research exists to confirm that efficient economic mechanisms in airports once privatized attract investments and yield better infrastructure and broader economic performance in creating jobs and in regional progress. Cost cutting as a lone goal makes organizations avoid investing in key functions such as technology, human resource development, and infrastructure and thereby negates their possibility for sustainable economic improvement.

Privatization performance is highly susceptible to short-term financial savings and longer-term performance in economies. Innovation and absorption of technology and investments enable better performance economically than businesses implementing cost cutting alone. Economic efficiency provides inner balance in ensuring quality maintenance and airport accessibility for sustainable improvement in economies. Privatization is based on sound frameworks for regulators requiring operators to adopt targets for economies at a national level while protecting clients from market manipulation strategies and providing cheap prices. Privatization economic rewards are actual when regulators are able to accomplish cost cutting and economic efficiency in stewardship. Government organizations must come up with frameworks for privatization ensuring simultaneous improvement in economies and equal service for clients at a public and private level.

4.2 Theoretical and Practical Implications

This research adds value to privatization studies by evaluating economic efficiency as a mechanism that links cost efficiency with economic growth. This research extends three existing theories, namely Public Choice Theory and Principal-Agent Theory Transaction Cost Economics, by positioning economic efficiency as the dominant element determining airport privatisation outcomes. This research expands on previous research

regarding cost efficiency by showing that economic efficiency maintains short-term financial gains from privatization and creates optimal long-term economic results. This presented research delivers essential knowledge that policy-makers may utilize to enhance their privatization strategy development. Government officials must establish dual priorities in their privatization plans to achieve financial savings from efficiency measures and investments that drive long-term economic growth through productivity improvements. The right mix of financial gains and continuous development will make privatized airports help the nation prosper along with job growth and enhanced competitiveness in the world market.

The research establishes that private airport operators and investors must use comprehensive strategies to evaluate future privatization opportunities. Investors need to understand that economic efficiency over the long term proves more beneficial than immediate expense reductions for achieving sustainable profit. When privatized airports include economic efficiency within their operational plans, they can guarantee their financial and economic development will continue. To optimize economic development, private operators require proper regulatory systems that restrict monopolies and guarantee their work supports nationwide goals.

4.3 Policy Recommendations

Airports will benefit from efficient privatization through the adoption of essential policy recommendations. A balanced privatization framework should exist because it brings together both cost-efficiency and economic efficiency goals from governments (Leigland, 2018). The method provides immediate financial gains and sustained investments to develop infrastructure and technological capability and train the workforce. An adequately designed framework enables the preservation of airport infrastructure that supports the nation's economic objectives through stable operation. Establishing strong governance alongside regulatory mechanisms enables proper management of monopolistic control alongside national economic targets in privatized airports (Leigland, 2018). Governments need to establish superior regulatory structures that use pricing regulations, performance tracking, and stakeholder relationship management systems. The instituted measures protect both customer service quality and fair pricing systems while encouraging private operators to invest in the modernization of infrastructure and technology. Enforcement processes can protect government regulations,

serving public safety alongside economic efficiency.

Innovation and technology development requires significant strategic investment as an essential step in airport privatization processes. Privatized airports should receive incentives to use their saved expenses as investments for technological upgrades and sustainable infrastructure development (Ioulia Poulaki et al., 2021). The reorganization of airport resources through investment creates two-fold benefits: it grows capacity and connects areas while drawing multinational airline operations and logistical businesses. The innovation policies of privatized airports help them gain marketplace competitiveness, which positions them better for future transportation needs. The government should establish policies to guarantee regional sustainable development outcomes from airports operated by private companies (Donnet et al., 2024). The system can be encouraged through financial rewards that motivate job creation along with tourism promotion and backing of local economic sectors. Profitable airports near national borders function as economic centres, bringing national economic benefits and airport revenue. Private operators actively participating in regional development programs make the airport a stronghold for economic expansion and employment growth.

Authorized governments should provide incentives for developing sustainable strategic plans involving infrastructure growth and service evolution. Private operators should receive compensation through performance-based contracts and incentive structures that offer payment based on sustainable economic development success rather than immediate profits (Global Infrastructure Hub, 2024). Through long-term investment focus, governments maintain the ability to let privatized airports develop into better facilities that provide advantages to travellers and economic growth.

4.4 Areas for Future Research

Further research about airport privatization needs attention in specific areas to improve comprehension of this phenomenon's economic effects and business aspects. The necessity of studying the prolonged economic developments after privatization needs immediate investigation. Future investigation must supply continual measurements of economic developments from privatized airports through sustained observations of critical indicators, including financial investment activities, job establishment, infrastructure construction, and regional financial growth data points (Gibbons & Wu, 2019). Using extended-

period data analysis will grant important information on lasting economic airport benefits from privatization operations, thus enabling policymakers to assess different privatization strategies.

Research should compare privatized airports throughout multiple regions using different governance models. Research on airport privatization across varied economic and political situations would expand comprehension of how different governance systems affect privatization outcomes (Gibbons & Wu, 2019). This research holds significant value for identifying successful privatization methods while seeing through economic-specific challenges, especially in developing world settings, since their privatization experiences differ markedly from those of developed countries. Economic efficiency development caused by technological innovation represents a subject which needs deeper academic scrutiny. Research must explore how modern airport technologies like automation art, artificial intelligence, and digitalization drive operational enhancements eco, nomic expansion, and financial decreases in airport systems. The analysis of technological improvements for enhancing airport efficiency and market competitiveness in privatized operations will serve as a foundation for better future privatization approaches.

Researchers need to conduct additional investigations about how regulatory frameworks support the achievement of airport privatization. Research must evaluate the economic output from airport privatization through investigations of various regulatory management methods, including pricing restrictions, performance benchmarks, and customer and stakeholder involvement systems. Research into the best regulatory models allows governments to develop policies that enhance economic development, balanced accessibility, fair practices, and high-quality service delivery. Future research must tackle these literature gaps because they will generate advanced knowledge about airport privatization complexities.

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- **Ethical approval:** The conducted research is not related to either human or animal use.
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