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**Assessing Port Privatisation: A Comparative
Analysis of Thessaloniki and Santos**

by

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Acknowledgements

A significant turning point in my academic career has been reached with the completion of my thesis. As I prepare to enter the professional world, I reflect on the route that has led me to this critical moment.

My understanding and interest in ports and shipping were surprisingly immature when I moved to Rotterdam a year ago. I had little knowledge of the complexity and breadth of the topic of study known as Maritime Economics and logistics. But over time, this city's vibrant and constantly changing spirit gradually cultivated a deep fascination with the enormous world of the high seas and international trade, which I aim to nourish and cultivate in the remaining chapters of my life.

Embarking on this thesis presented itself as a formidable challenge, occasionally morphing into one of the most taxing projects I have ever undertaken. Yet, through the unwavering support and encouragement of several individuals, I managed to navigate this demanding endeavour.

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Abstract

The maritime industry has undergone a significant transformation in recent years, with privatisation emerging as a pivotal factor steering this change. This study meticulously dissects the intricacies of full port privatisation, spotlighting two distinct cases: the recently fully privatised port of Thessaloniki and the halted privatisation process of the port of Santos. The impetus for this research stems from the substantial shifts observed in the maritime industry, where privatisation has surfaced as a central element. This study illuminates the complexities of port privatisation, offering vital insights that could potentially guide future reforms in the maritime sector, thereby addressing a significant gap in the existing literature.

A comparative performance analysis was employed to unravel this complex issue, scrutinising the pre- and post-privatisation periods of the primary ports of Thessaloniki and Santos. This methodology facilitated a comprehensive understanding of the procedures and outcomes associated with port privatisation, providing a rich backdrop for the primary cases studied. It encompasses a detailed examination of various port types and the global reforms initiated by port authorities, thereby offering a nuanced understanding of the broader implications of privatisation strategies.

The results of this research are profound, revealing a positive trajectory after reforms in key performance metrics for both ports. This indicates enhanced operational efficiency and financial robustness, suggesting that privatisation can significantly augment throughput and trade, positioning ports more competitively in the global maritime industry. Specific observations for Thessaloniki indicate marked improvements in cargo throughput, revenue, and EBITDA post-privatisation. In contrast, Santos demonstrated resilience and adaptability even without complete privatisation, highlighting the broader implications of strategic choices in port management. The persistent trends which should be observed after privatisation can contribute to a richer and more nuanced understanding of the maritime industry's evolving landscape.

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List of Abbreviations

BRL	Brazilian Real (Local Currency)
DWT	Deadweight Tonnage
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GLC	Government-Linked Company
HPH	Hutchinson Port Holdings
HRADF	Hellenic Republic Asset Development Fund
ICT	Information & Communications Technology
ICTSI	International Container Terminal Services, Inc.
IDA	International Development Association
KCTA	Korean Container Terminal Authority
MPA	Maritime Port Authority
PoR	Port of Rotterdam, Netherlands
PSA	Port of Singapore
PSDC	Public Sector Divestment Committee
RQ	Research Question
SCT	Shanghai Container Terminal Limited
SOEs	State-Owned Enterprises
TEU	Twenty-Foot Equivalent Unit
ThPA	Port of Thessaloniki, Greece
UK	United Kingdom
WTO	World Trade Organisation

Chapter 1: Introduction

1.1 Background & Context

Imagine standing at the edge of a bustling port, where the dance of commerce and logistics unfolds. Colossal ships dock and depart, towering cranes load and unload containers, and sounds fill the air. With its constant activity, this bustling port holds more significance than a physical location. It serves as a vital hub in the intricate global trade network. In recent years, there has been a notable transformation in port management worldwide, known as privatisation, the shift from public control to private ownership. A strong drive for enhanced efficiency necessitates substantial investments and reflects the global trend towards market liberalisation. The reasons for this shift are multifaceted: the need for quick and efficient operations, alignment with timing in liner services and economies of scale using larger vessels.

In any case, the adventure to privatisation is a complex street involving complicated selection-making, regulatory frameworks and financial analysis, regularly going through resistance from numerous stakeholders. The outcomes can be unpredictable, with the impact of privatisation on port efficiency and productivity varying considerably. Privatisation strategies can be applied in varying degrees to different port activities, while private entities take complete ownership in the fully privatised port management model. The participation of private stakeholders in the port sector can manifest in several ways, influencing the ownership and governance structures in which this spectrum ranges from state ownership, autonomous agencies, and municipal ownership to full private rights.

The pass closer to privatisation represents a complete transformation, requiring a harmonious mix of felony, financial, social and environmental concerns. Although the existing literature offers valuable insights into this transition, a gap lies in its complexity. The privatisation wave in the maritime enterprise requires a nuanced technique that harmoniously balances hobbies and dreams. This path displays a broader discussion of character work and identifies the assumptions underlying such vital selections.

1.1.1 Strategies and Reform Options in Port Management

Ports, which serve as the backbones of worldwide alternate and enterprise, are constantly evolving. The control and reform techniques they pick out are essential in this dynamic environment. Port transformation is a complicated system that can be tackled through several reform alternatives and strategies. These tactics reflect the transferring dynamics of port management and the tricky interplay amongst societal considerations, usual performance, responsiveness and personal and public interests. Governments and port control can pick many answers for increasing organisational and operational performance. These include:

Modernization in port management and management transcends mere infrastructural enhancements. It represents a complete technique for aligning ports with current international standards. This includes integrating contemporary PC applications and ICT answers, incorporating advanced company-making plans practices, and strategic human functional resource improvement. The essence of modernization lies in its capability to update and refine the executive and operational aspects of ports to resonate with present-day wishes and benchmarks. The gift bureaucratic framework can be progressed by implementing better systems and running methods. However, this does not compel legislative or policy changes. This makes modernization a viable strategy for ports that could need to be poised for radical reforms. The capacity results of this type of technique encompass more robust performance, streamlined approaches, and a far better alignment with global requirements. However, the adventure of modernization has demanding situations. It might be met with resistance from entrenched stakeholders, and its impact might be diluted if not complemented by overarching organisational and cultural shifts. Furthermore, while it can lead to incremental changes that collectively contribute to a port's evolution, it might only sometimes result in fundamental shifts in the port sector (Parola et al.,2021).

Liberalisation signifies a shift from a traditionally government-controlled sector to one where private entities can operate, innovate, and compete (World Bank,2017). The need pushes this recalibration to foster a competitive environment, which, in turn, is anticipated to catalyse performance upgrades and heightened responsiveness to customer needs, ensuring that ports continue to be agile, green, and competitive in an unexpectedly evolving global panorama. However, the essence of liberalisation, deregulation, might sometimes be at odds with broader public policy objectives,

necessitating a reasonable balance between market freedom and regulatory oversight. There is a need to ensure that while ports benefit from the efficiencies of the private sector, they do not compromise on broader societal, environmental, and economic goals (Parola et al.,2021). The link between opposition driving alternate in port governance further underscores the importance of this stability. As ports liberalise and competition intensifies, there is a risk of emerging monopolistic practices, which can undermine the efficiencies liberalisation aims to achieve. Moreover, as ports become more market-driven, there is a need to ensure that they remain aligned with broader national and regional economic goals (Cullinane et al.,2017). In essence, the liberalisation of port services offers the promise of enhanced efficiencies, innovations, and market responsiveness but also brings challenges that need to be navigated with care, balancing private sector efficiencies with the broader public good (World Bank,2017).

Commercialisation represents a strategic shift in port management, wherein a public port is endowed with more autonomy, permitting it to carry out with the agility and universal overall performance characteristic of the private region. This transformation is not always pretty much operational modifications but about making the port authority chargeable for its picks and overall performance, making sure that it operates commercially. By adopting private sector practices and characteristics, ports can achieve improved financial performance, respond more adeptly to market demands, and enhance their competitiveness (World Bank,2017). A vital part of this industrial technique is adopting targeted marketing techniques, which might be crucial for attracting commercial enterprises and ensuring the port stays aggressive in a dynamic worldwide marketplace. It is essential to interact with diverse stakeholders, from shippers to terminal operators, and recognize their diverse desires. Tailoring services to meet these needs while promoting the port's unique value proposition becomes a pivotal aspect of the commercialisation journey (Parola et al.,2021). Although commercialisation tries to promote financial independence and market-driven decision-making, there is also a constant possibility of governmental meddling, which could weaken the independence that commercialization seeks to build. Furthermore, as ports become more commercially driven, they face the intricate challenge of aligning their commercial objectives with broader public policy goals and societal expectations (World Bank,2017).

Corporatisation signifies the transformation of a public port enterprise into a legal entity that mirrors the characteristics of a private company, yet ownership predominantly remains within the public sector's domain. This metamorphosis is driven by the aspiration to establish the corporatised port as an autonomous, self-reliant entity shielded from the direct interventions of the government. An outstanding advantage of this structure is its monetary autonomy to the port, empowering it to operate on industrial terms and respond dynamically to market demands. In the evolving worldwide trade panorama, corporatisation is a pivotal approach for ports. By adopting this version, ports can better position themselves to draw private funding, leverage industrial financing, and foster an aggressive environment that advantages the port and its customers. This approach allows ports to operate with a clear commercial mandate, ensuring they remain financially viable while delivering efficient services (World Bank,2017).

However, this financial independence, while a formidable asset, also brings with it challenges. While taking part in operational freedom, the port should tread carefully to ensure its enterprise activities align seamlessly with broader public coverage objectives. The pass to a corporatized model may also come upon resistance and scepticism, particularly from modern employees and stakeholders worried about the changes to the organizational way of life and practices that such a transformation entails. A clear governance framework is essential to guide the corporatised port's operations, ensuring accountability, transparency, and alignment with national development goals (World Bank,2017).

Privatisation, in the context of port governance, signifies a strategic transition where assets and operations, traditionally under public oversight, are entrusted to private entities. This transformative approach is often driven by the quest for enhanced operational efficiency, the infusion of market-centric innovation, and the allure of private capital that promises to bolster a port's competitive edge in the global maritime arena (Parola et al.,2021).

Nevertheless, this pivot closer to privatisation has its complexities. While the commercial blessings are apparent, ports are constantly challenged to ensure that their newfound operational strategies do not eclipse the broader societal, environmental, and public policy imperatives. The essence of this shift, although deeply rooted in

commercial objectives, necessitates a harmonised approach that seamlessly integrates these objectives with overarching societal and environmental goals (Parola et al.,2021).

Port controlling bodies are increasingly self-sufficient within the constantly changing global port governance landscape. This fashion underscores the importance of strategic planning that aligns seamlessly with market wishes, ensuring that ports are aggressive and aware of the maritime vicinity's dynamic shifts. This transformation, far from being a local phenomenon, mirrors a global narrative. It emphasises the pressing need for ports worldwide to embrace adaptive strategies, ensuring they balance competitive prowess, sustainability, and broader societal obligations (Pallis, A.,2021). These techniques and reform alternatives reflect a spectrum of tactics, from incremental changes in internal present structures to profound shifts in possession and management.

1.1.2 Different types of ports and their characteristics

Ports are complex nodes in the global commerce network. As such, they have many operational and governance systems, each motivated by using a nexus of socio-economic elements and political wishes. Whether a port chooses public stewardship, private enterprise, or a hybrid governance model, it frequently reflects the fine line that must be drawn between societal goals and business needs. Such stability is critical for ensuring operational effectiveness and meeting the capital-enormous requirements of contemporary port infrastructure. Beyond the immediate active sphere, more prominent societal factors like job creation, environmental protection, and regional economic expansion are crucial in shaping the administrative structure of the port. A careful examination of port typologies reveals several governance systems with specific blessings, drawbacks, and peculiarities. (Larsen,2018). Here is a more detailed exploration of the different types of ports:

Public Service Port: Rooted in the traditional approach to port management, the public service port is wholly government-owned and operated. This version aligns with overarching public coverage goals, ensuring that the port's operations serve the region's broader societal and financial needs. While it gives an excessive degree of management and can be instrumental in achieving countrywide or regional objectives, it can once in a while prioritise policy dreams over operational efficiency. The inherent administrative processes can sometimes stifle innovation and limit the port's ability to respond to

market demands swiftly. The challenge lies in harmonising public interests with the need for efficiency, competitiveness, and market relevance (Turpin, 2013).

Tool Port: This model represents a blend of public and private interests. The government keeps ownership of foundational infrastructure, such as quay partitions and breakwaters, whilst entrusting the control of superstructures to the non-public zone. This synergy guarantees that the port's infrastructure aligns with public policy directives and benefits from private area innovation, efficiency, and marketplace responsiveness. This dual management can sometimes lead to coordination challenges, necessitating robust contract management and clear role definitions to ensure seamless operations (Turpin, 2013).

Landlord Port: Embodying the evolving dynamics of world change, the owner port version signifies a partnership among the public and private sectors. The government owns the number one property, even as the personal zone manages terminals, shipment management, and different operational components. This model attracts non-public investments, leveraging their understanding and capital to beautify port operations. The combination of public oversight with non-public dynamism ensures innovation at the same time as safeguarding crucial assets. Although, this partnership demands meticulous contract management to foster a harmonious relationship (Turpin, 2013).

Fully Privatised Port: Representing the top of private quarter involvement, the version guarantees unheard-of agility, innovation, and marketplace responsiveness. While it can pressure enormous operational prof more than efficiencies, there may be a potential threat of misalignment with broader societal dreams. The emphasis on profitability might overshadow societal, environmental, or even national security mandates. Thus, robust regulatory oversight becomes indispensable to ensure the port remains anchored to its societal commitments and national interests (Turpin, 2013).

The choice of port type is not a one-period-fits-all desire requiring nuanced statistics of the port's unique characteristics, the broader financial and social context, and the goals and hobbies of numerous stakeholders. By exploring these particular kinds of ports in intensity, this evaluation gives precious insights to the port government, policymakers, buyers, and unique stakeholders as they navigate the complicated dynamics of port management and reform. It underscores the significance of a thoughtful and strategic

technique that recognises the multifaceted nature of ports and the complex interaction between various factors.

1.2 Relevance of the topic

Considering ports' immense role in our international financial machine and the gradual trend toward port privatisation, it is critical to research how privatisation can affect port productivity and efficiency. It is well worth noting that despite this trend, maximum port authorities remain state-owned, guiding coverage decisions and assisting stakeholders in steering the privatisation manner extra efficaciously. Moreover, since port privatisation can significantly affect local economies and communities, it is a subject that holds vast public hobby. It is an adventure with ways-achieving implications, touching people's lives close to and ways, from the local dock worker to the worldwide purchaser. The privatisation of ports represents a huge shift within the worldwide maritime business enterprise, reflecting a broader style in the direction of market liberalisation and private region participation. Various factors power this alteration, along with the want for advanced efficiency, vast funding, and alignment with global economic regulations.

The relevance of this situation count extends past mere financial concerns. It features a complicated prison, social, environmental, and political interplay. The port's privatisation influences kingdom government, non-public stakeholders, employee unions, surrounding businesses, and environmental proponents.

1. **Economic Impact:** Privatising ports can boost efficiency, competitiveness, and growth capability whilst attracting private funding, enhancing productiveness and contributing to regional and national financial development.
2. **Social Considerations:** Port privatisation impacts employment, network engagement, and social responsibility. The views of labour unions and local groups should be considered, and responsible port management should align with societal values.
3. **Environmental Stewardship:** Environmental sustainability effect assessment and mitigation are increasingly essential in port control. Responsible environmental stewardship is vital for lengthy-time period achievement.

4. **Global Trends and Comparative Analysis:** The privatisation of ports is part of a worldwide trend. Comparative research among ports and regions can provide insights into exceptional practices and disturbing conditions.
5. **Challenges and Complexities:** The technique of port privatisation is fraught with complexities, consisting of coordination challenges, loss of manipulation, political ambiguity and potential unfair competition.
6. **Labor Reform:** The significance of dockworker labour reform in attracting personal sector funding is a massive difficulty, with varying views on its criticality throughout distinct regions and ports.

The importance of port privatisation stems from its complete scope, masking economic, crook, social, environmental, and international factors. This subject matter offers a prominent place to explore and comprehend cutting-edge maritime enterprise styles in-depth. Delving into this trouble can equip policymakers, port government, shoppers, and critical game enthusiasts with essential insights for coping with port management and transformation complexities.

1.3 Objective of the Study

The objective of this study is multifaceted, aiming to address several critical aspects of port privatisation, efficiency, and competitiveness. Drawing from various sources, the study seeks to provide a comprehensive understanding of the complex dynamics of port management and reform.

Trujillo & Nombela's (1999) work on the "Privatisation and Regulation of the Seaport Industry" delves deep into the regulatory frameworks governing seaport industries, examining the implications of privatisation on efficiency. It offers theoretical and empirical perspectives on the relationship between ownership structure, port efficiency, and competitiveness.

de Langen & Sornn-Friese's (2023) research, "Is there a case for state ownership in ports and shipping?", alongside de Langen's (2023) "Advancing public interests through state ownership; the case of Port of Rotterdam", contribute to the discourse on the role of state ownership in ports and shipping. They consider factors such as scale economies, negative externalities, and institutional structures, discussing various public interests and the role of state-owned enterprises in port management and development.

The "Port of Thessaloniki Masterplan" by Vanidis (2008) offers an in-depth analysis of the development trajectory of the Thessaloniki Port. It aids in understanding the impact of ownership structures on port efficiency, focusing on the trend of port privatisation.

Haarmeyer & Yorke's (1993) "Port Privatisation: An International Perspective" and Quansah's (2008) "Impact of Privatisation in Ports: Measuring Efficiency through Data Envelopment Analysis and Key Performance Indicators" provide an international lens to the study. They delve into the determinants of port competitiveness, such as efficiency, charges, and service reliability, employing linear regression models for analysis.

Building upon foundational works by Talley (2009), Heng (2003), Baird (2002), and Heracleous (2001), this study integrates their findings with more recent research to offer a holistic view of port privatisation and its implications. World Bank (2017) further offers a comprehensive overview of the different types of ports, their structures, and the implications of their ownership models on efficiency and competitiveness. It provides a foundational understanding of port management and reform dynamics, emphasising the balance between public and private interests.

The choice of Thessaloniki and Santos as focal points for this study is both deliberate and instructive. Having undergone one of the most recent privatisations, Thessaloniki offers a fresh perspective on the immediate impacts and potential long-term benefits of such a transition. Conversely, Santos, where the privatisation process has been halted, demonstrates how public pronouncements and the anticipation they generate can influence the direction and momentum of a port's evolution. Together, these ports represent a spectrum of experiences and outcomes related to privatisation. The study sheds light on the infinite factors that can influence the success or challenges of privatising major port entities by examining them. These factors range from the socio-political climate and economic imperatives to the port's strategic goals and stakeholders' expectations. Furthermore, the research underscores the importance of understanding the local context in which privatisation occurs. Global benchmarks and established practices do not solely determine the outcomes of privatisation. Each port's unique historical context, connection with the local community, and significance in the national and regional economic framework play pivotal roles in shaping the results of such initiatives.

To be concise, this research enriches the scholarly dialogue on port privatisation and is a crucial reference for policymakers. By elucidating the journeys of Thessaloniki and Santos, it provides perspectives that can guide subsequent privatisation endeavours, guaranteeing advantages and sustainability for all parties concerned.

1.4 Navigating the Research Questions

The research aims to explore the multifaceted dimensions of port privatisation, focusing on its drivers, objectives, and varying influences across different countries and regions. The study will chart its course by addressing the following overarching research question (RQ) and sub-questions:

RQ: "What insights can be derived from the privatisation processes of the ports in Thessaloniki and Santos?"

To delve into this central question, the research will explore the following sub-questions:

Sub-questions:

1. **Different port characteristics:** How have the different characteristics of the ports in Thessaloniki and Santos influenced their respective privatisation outcomes, especially regarding efficiency, investments, and modernisation?
2. **Political Influence on Privatisation:** Considering the broader economic conditions in Greece and Brazil, how have political actors and circumstances shaped the decision-making processes behind the privatisation of the ports in Thessaloniki and Santos?
3. **Adaptation:** Considering Thessaloniki's privatisation and Santos' stalled privatisation process, how have these ports responded to the evolving demands of global supply chains?

In addition to these specific inquiries, the research will also address broader questions that encapsulate the essence of port privatisation:

- What commonalities and differences exist in the drivers and outcomes of port privatisation between Greece and Brazil?

- How do privatisation strategies in these two countries influence port efficiency and productivity?
- Are there identifiable factors or best practices that lead to successful port privatisation outcomes in different contexts?

These research questions form the backbone of the study, guiding the investigation into the complex dynamics of port privatisation. By addressing these questions, the research aims to contribute valuable insights and understanding to the field, shedding light on the intricate interplay of factors that shape the process and outcomes of port privatisation. Exploring these questions will pave the way for a nuanced analysis that recognises the multifaceted nature of port privatisation and its impact on various stakeholders and regions.

1.5 The Significance of the Study: Contributions and Implications

The voyage of port privatisation is a complex and multifaceted journey that holds profound significance for the global maritime industry. This study embarks on an exploratory expedition to unravel the intricate dynamics of port privatisation, efficiency and competitiveness, navigating through diverse landscapes of policy, economics and social considerations.

Academic Contributions

- **Comparative Analysis:** This study presents a thorough comparative analysis, integrating diverse facets of port privatisation from different countries and regions. It methodically assesses the variations in privatisation models, strategies, and outcomes, contributing to a deeper understanding of this intricate subject.
- **Broadened Perspective:** While the initial focus was on port efficiency and productivity, the study acknowledges the challenges in obtaining specific data for these metrics. Instead, it broadens its scope to encompass a range of factors influencing port privatisation, ensuring a more holistic and informed perspective.

Practical Implications

- **Policy Insights:** The study's findings will resonate beyond the academic sphere, offering valuable insights to policymakers, port authorities, and industry stakeholders. It will inform and guide policy decisions, shaping the trajectory of port reforms and privatisation initiatives.
- **Strategic Recommendations:** By dissecting the successes and challenges of various privatisation journeys, the study will provide actionable recommendations for future endeavours. It will serve as a compass for stakeholders navigating the complex waters of port privatisation, steering them towards successful outcomes.
- **Global Perspective:** With its international scope, the study will contribute to the global dialogue on port privatisation. It will foster cross-border collaboration and learning, enhancing the collective wisdom of the maritime community.

Social and Environmental Considerations:

- **Community Engagement:** The study recognises the importance of engaging with local communities and social stakeholders. It explores the social implications of privatisation, emphasising equitable benefit distribution and social responsibility.
- **Sustainability Focus:** Environmental stewardship is woven into the fabric of the study. It examines the sustainability practices within port management, emphasising long-term environmental considerations and responsible growth.

Essentially, the significance of this study transcends mere academic exploration, which is a comprehensive and thoughtful journey that contributes to understanding port privatisation, efficiency, and competitiveness. It resonates with real-world challenges and opportunities, offering a signal of knowledge and guidance for those embarking on the voyage of port reform and management. The study's contributions are poised to leave a lasting imprint on the maritime landscape, influencing the future of ports worldwide.

1.6 The Boundaries of the Study: Scope and Limitations

The study concentrates on the entire port privatisation procedures, except for non-public terminal operators. It evaluates cases from Greece, Brazil and other countries, each representing different geographical regions and contexts. The findings might be particular to specific journeys, and the provision and excellent data ought to constrain the intensity of the analysis. Although their process is dedicated to presenting treasured insights into the intricate realm of port privatisation.

Scope

The observation systematically examines port privatisation, especially in instances from Greece and Brazil. These countries were chosen due to their distinct geographical locations, political environments, economic statuses and privatisation approaches.

The research is grounded within the following dimensions:

- **Drivers and Objectives:** The study seeks to parent the primary motivations and intended results behind the decision to privatise ports.
- **Comparative Efficiency Analysis:** Leveraging available data, the research contrasts performance metrics pre- and post-privatisation to identify efficiency and operational dynamics changes.
- **Operational Innovations:** They investigate any improvements in generation adoption, control methodologies and operational strategies that emerged after privatisation.
- **Economic Impact:** The research evaluates privatisation's macroeconomic repercussions, thinking about changes in quantity, regional financial growth, and employment trends.
- **Strategic Positioning:** The topic assesses how privatisation has recalibrated the ports' standings inside international maritime circuits and their importance in regional and international trade.

The quantity of available statistics inherently shapes the depth and breadth of our analysis for each port. A richer dataset exists for Thessaloniki, bearing in mind an extra distinct examination. In assessment, the statistics about Santos are particularly sparse, which naturally constrains the granularity of our insights for this port. Our research

technique is anchored in a table-primarily based method, meticulously sourcing and analysing records from extant reviews, scholarly theses, peer-reviewed articles, and other pertinent online materials. It is crucial to highlight that this observation did not interact with the number one facts series endeavours, including stakeholder interviews or direct interactions with port authority representatives. Instead, the insights and conclusions presented culminate in a severe review and synthesis of the collated secondary sources contextualised within the broader academic discourse on port privatisation.

Limitations

While the study aims to provide a deep and refined understanding of port privatisation, it acknowledges certain limitations that may constrain the breadth and depth of the analysis:

- **Generalizability:** The findings pertain specifically to the contexts of the selected countries, Greece and Brazil. Their direct applicability to other regions with different political, economic or cultural dynamics is limited.
- **Data Availability and Quality:** The study's conclusions are based on the data that was accessible. There were situations where the data was either unavailable or did not meet the desired accuracy and completeness, potentially influencing the depth of the analysis.
- **Complexity of Port Privatisation:** The process of port privatisation is multifaceted and influenced by various factors. The study, while comprehensive, does not capture every detail or subtlety of each case.

Although extensive, the study's scope admits several limitations that would have prevented it from being more broad or in-depth in other situations. The investigation might have covered a more extended historical period, possibly over a decade, if there had been more time and the chance to travel to the relevant ports. There may have been more ports included in the case study. However, the current study direction has been determined by the limits imposed by time restraints and the absence of specific

literature. Nevertheless, the research is still devoted to providing a comprehensive analysis within its boundaries, adding to the academic conversation and offering valuable insights on port management and reform. Through this open acknowledgement, the study upholds its integrity and dedication to providing an educated viewpoint on port privatisation.

Chapter 2: Literature Review

2.1 Introduction to Port Privatisation

The global shift in the direction of port privatisation underscores a broader transformation inside the maritime industry. Historically, governments have maintained control over port operations and property, viewing them as strategic countrywide assets. However, this paradigm has been challenged by the evolving dynamics of world trade and the growing need for green and marketplace-responsive port control. Publicly owned and operated ports, insulated from the full brunt of market competition, often need to improve allocating labour and capital resources. Moreover, their decision-making processes can be influenced by political considerations, which might only sometimes align with the port's operational efficiency or commercial viability (Baird,2002).

In stark contrast, private port operators are subjected to the rigorous disciplines of the market. Stakeholders constantly scrutinise their performance, and any inefficiencies can have immediate financial repercussions when this market-driven accountability fosters a culture of continuous improvement and innovation. Furthermore, the ownership structures in the private sector are typically more concentrated, leading to more transparent lines of accountability and control. Such systems are conducive to agile decision-making, unencumbered by the bureaucratic processes that might plague their public counterparts (Heng,2003).

In essence, the momentum in the direction of port privatisation is not simply a mirrored image of financial considerations but additionally a response to the changing panorama of global change. As ports strive to become pivotal nodes in worldwide delivery chains, the agility, performance and responsiveness presented by non-public ownership emerge as more and more helpful.

2.2 Drivers and Objectives of Port Privatisation

The push toward privatisation has appreciably stimulated the evolution of the global port enterprise. This shift drives the quest for more advantageous operational and commercial flexibility inside port control. As the worldwide exchange landscape becomes increasingly dynamic, ports ought to adapt hastily to converting demands, technological advancements and competitive pressures. Privatisation gives a pathway to attain this agility.

Consistently, ports operated under public ownership, often resulting in bureaucratic processes and limited commercial incentives. The absence of market-driven pressures in publicly owned ports sometimes led to inefficiencies in resource allocation and operational practices (de Langen, 2007). In contrast, private entities, driven by profit motives and competitive forces, are incentivised to optimise operations, invest in modern infrastructure and innovate in service delivery.

The revolutionary discount of law within the port zone has similarly facilitated the upward thrust of privatisation. As regulatory boundaries lessen, personal region participation in port operations has surged. This brings capital investment and introduces exceptional practices and superior technology to the port ecosystem worldwide. Moreover, port users, including shippers and logistics providers, play an increasingly influential role in shaping a port's direction, often advocating for practices that enhance efficiency and reduce costs (Trujillo & Nombela, 2000).

Several countries worldwide have recognised the benefits of port privatisation. For example, countries like Argentina, Brazil, Hong Kong, Malaysia, Mexico, New Zealand, Singapore, Venezuela, and the United Kingdom have privatised their predominant ports or are within the method of doing so. In 1983, the United Kingdom sold 19 ports in a public share offering and continued to sell ports individually. Such moves are often driven by the dual objectives of enhancing operational efficiency and generating revenue for the state (Trujillo & Nombela, 2000).

2.3 Challenges and Risks Associated with Port Privatisation

Port privatisation, especially in its entirety, brings many challenges that can counteract the expected advantages. A primary concern revolves around the financial constraints faced by private investors, and after acquiring port properties and assets, these investors might need more funds to finance new facilities and equipment procurement. This financial limitation can impede the port's capacity to modernise and adapt to evolving market requirements.

Moreover, evidence from the UK indicates that the efficiency levels of privatised ports might be, at most, those of their public counterparts. Despite transitioning to private ownership, significant enhancements in operational infrastructure still need to be discovered, prompting questions about the genuine effectiveness of privatisation in fostering operational excellence. (Monios,2016)

The impact of privatisation strategies on port performance, especially concerning management and operations, is significant. However, the influence on core port operations directly affecting port output and efficiency is paramount. Identifying areas of success in different port categories and monitoring changes in efficiency over time is crucial. These shifts often originate from the added value through the transition from wholly state-owned entities to private/public partnerships. Such collaborations typically encompass infrastructure expansion and a more commercially oriented approach to operations. Though, lingering questions remain about the depth of privatisation and its broader implications on the maritime logistic chain (Quansah, 2008).

2.4 Strategies and Policies for Managing Port Privatisation

The considerable variations in port privatisation tactics used worldwide reflect each country's distinct economic, political, and social conditions. One example of such a strategy is the 1997 conversion of PSA, a public port body in Singapore, into an independent commercial corporation. This move was accompanied by the establishment of the MPA, a new statutory board tasked with overseeing and regulating the PSA Corporation, ensuring the provision of essential port and marine services and facilities (Quansah, 2008).

In contrast, Korea's approach to port privatisation involves a leasing model. The Ministry of Maritime Affairs and Fisheries leases terminals to the KCTA without any financial transaction. Subsequently, the KCTA engages private terminal operators to manage and oversee the operations of these terminals. This model ensures that while the government retains ownership, the operational efficiency is enhanced through private sector involvement. (Cullinane et al., 2017).

China's strategy for port privatisation leans towards collaboration. The Chinese government has preferred joint ventures to introduce the private sector into terminal operations, such as the SCT and the Yantian International Container Terminal (Cullinane et al., 2017). These joint ventures create a synergy between public oversight and private sector efficiency.

Diving deeper into global strategies, it is evident that the privatisation process is often influenced by a country's broader economic policies and objectives (Quansah, 2008). For instance, in some nations, the push for privatisation is driven by the need to attract foreign direct investment, while in others, it is about enhancing competitiveness in the

global maritime industry (Cullinane et al.,2017). The decision to privatise, the extent of privatisation, and the choice of private partners are all influenced by many factors, including the country's economic goals, the state of its maritime industry, and its geopolitical considerations (Quansah,2008).

Furthermore, the regulatory framework plays a pivotal role in the success of port privatisation (Cullinane et al.,2017). Effective regulations ensure that while ports enjoy operational autonomy, they do not compromise on safety, security, and environmental standards. It is also crucial that these regulations are transparent and predictable, providing clarity to both the port operators and their customers (Quansah,2008). Thus, while the strategies and policies for managing port privatisation differ across countries, the underlying objective remains consistent: to enhance the efficiency, competitiveness, and sustainability of the port sector (Quansah,2008). Whether through full privatisation, joint ventures, or leasing models, the goal is to ensure that ports continue to play their pivotal role in the global trade ecosystem effectively and responsibly. (Cullinane et al.,2017).

2.5 Port Reforms: A Global Perspective

The maritime sector has witnessed a transformative shift in port governance over the past few decades. A global movement towards devolution, decentralisation and the corporatisation of public port authorities characterised the 1990s. This trend was not merely a fleeting phase; the subsequent years saw a series of legislative adjustments that went beyond the simplistic narratives of 'devolution' or 'market opening'. Numerous elements have prompted these reforms, ranging from macroeconomic situations to go-sectoral rules, reflecting the complexity of the maritime ecosystem.

Key Facets of Port Reform

External Influences: The trajectory of port governance reforms is not isolated from the broader economic and political landscape. For instance, Portugal's port reforms in the late 20th and early 21st centuries were more than just maritime-centric decisions. They were motivated via overarching countrywide legislation on company governance and public management, highlighting the interconnectedness of coverage decisions.

Economic Climate: The worldwide economic surroundings are pivotal in shaping port reforms. Economic downturns, such as the one witnessed in the late 2000s, necessitated re-evaluating strategies within the port sector. Such challenging periods often catalyse

introspection, leading to reforms to bolster resilience and adaptability (Cullinane et al., 2017).

China's Port Governance Evolution: China's journey in port governance has seen various stages, from centralised control to a more decentralised approach and then a move towards semi-centralisation. The 2015 shift from the "one city, one port (OCOP)" mode to the "one province, one port (OPOP)" mode was a significant reform aimed at reducing intense competition among ports. This reform responded to the surge in port investments and the resultant cut-throat competition among ports during the decentralised era (Cheng et al., 2022).

Challenges and Inherent Limitations in Port Reform

Evidence Deficiency: Despite the worldwide fashion in the direction of port reforms, the maritime zone faces a substantial undertaking: a need for comprehensive proof of first-rate practices in port governance. While a few reforms have been lauded for their pleasing effect, others have been critiqued for not handing over the predicted blessings.

Economic Performance Dynamics: Privatising ports, especially in countries like the UK, only sometimes yielded the expected outcomes. There have been times when the expected worries, elevated port prices, decreased competition, and a want for considerable investments in infrastructure and facilities overshadowed economic blessings.

Implementation Bottlenecks: The journey of port reform is fraught with challenges, some inherent to devolution and others stemming from the intricacies of implementation. Brazil's experience with port reforms serves as a case in point. Despite the country's ambitious reform agenda, the process was impeded by a series of procedural challenges, underscoring the complexities of translating policy into practice (Cullinane et al., 2017).

Furthermore, the maritime zone's transformation in China, as highlighted by Cheng et al. (2022), underscores the importance of know-how regional dynamics and the precise challenges faced with the aid of character nations. With its shift from OCOP to OPOP, the Chinese reveal offers treasured insights into the complexities of port governance and the need for adaptive techniques in the face of evolving challenges.

2.5.1 Port Reform Case Studies

In this chapter, we delve into eight distinct port reform case studies, cautiously determined entirely based on the availability of new academic publications that shed light on their intricacies. These case studies embody several reforms, with a few that specialise in port privatisation while others explore broader reformative measures. A systematic search was executed through instructional databases, journals, and institutional repositories to ensure a whole and updated evaluation. The purpose changed to emerge as aware of research that provides pre-and post-reform information, taking into account a nuanced understanding of the effects and results of the reforms undertaken. By focusing on these nicely documented instances, this chapter offers a vast range of insights into the multifaceted nature of port reforms for the duration of different global contexts.

ARGENTINA

Argentina, a country with a rich history of financial fluctuations, has constantly searched for avenues to boost its financial growth, and one such avenue is the port region. The port device in Argentina has the potential to seriously make a contribution to its sustainable monetary growth and decorate its competitiveness. Delving into the port reforms in Argentina, there is a focus on the transition from public to private operations and its implications.

The Nineteen Nineties marked an enormous shift in Argentina's monetary regulations. The U.S.'s most severe economic disaster occurred in 2002, which led to a deviation from the financial rules of the 1990s. (World Bank Group,1996). Despite interventions, distortions have been created that hindered the optimal allocation of assets. Argentina's growth rate between 2000 and 2009 was 2.3%, but between 2011 and 2015, the growth was negligible. The turbulence in the financial market, high accurate interest rates, and rapid fiscal consolidation marked 2018, resulting in a 2.6 % decline rate.

Investment in port infrastructures directly influences the countrywide economy, in which maritime shipping, basically containerised products, is a vast economic indicator. The Argentine port system's growth in transporting containerised merchandise in 2017 was 6.91%, contrasting with the -3.10% from 2012 to 2016. The port of Buenos Aires, operated by private entities, handled 80% of containers between 2012 and 2017.

The need for efficiency drove the transition to privatisation. Research indicates that private operators are more efficient than public operators' technical efficiency levels, though below 0.50, saw an annual growth rate of 12.17%. The objective of the reforms was to quantify the levels of technical efficiency in containerised goods terminals for the period 2012 to 2017. (López-Bermúdez et al. ,2019).

Table 1 : Argentina's Port Reform

Aspect	Before Reform	After Reform
Operational Efficiency	Below optimal	Improved
Technical Efficiency Levels	Below 0.50	Growth of 12.17% annually
Port Operators	Public	Private
Port Traffic Growth	-3.10% (2012-2016)	6.91% in 2017
Volume of Containers	Varied	80% handled by Buenos Aires port terminals

Source: Author from López-Bermúdez et al. ,2019

Argentina's port reforms, which worried about switching from public to personal operations, have produced encouraging results. The advanced operational and technical performance indicates a promising future for Argentina's port organisation. The reforms' extended-time period consequences will be critical in identifying Argentina's monetary environment since Argentina continues to use its port tool for the financial boom.

AUSTRALIA

Australia's port sector has undergone a widespread transformation for a long time. Historically, ports were considered critical for exchange and financial sports, with their control and operations under the purview of state governments. However, the 1980s marked a pivotal shift, with a growing emphasis on loose market ideologies, mainly to the advertising of commercialisation and the adoption of user-will pay standards. The overarching purpose became to transition far away from the traditional, inefficient port authorities and labour-in-depth operations that characterised the world. Central to Australia's port reform was the labour market deregulation, which saw the introduction of enterprise-based agreements. This strategic move resulted in enhanced flexibility and

productivity across the port sector. While privatisation was the chosen path for some regional ports, others underwent corporatisation, indicating the state's hesitance to forgo control over crucial export infrastructure altogether (Everett et al.,2013)

Table 2 : Australia's Port Reform

Aspect	Before Reform	After Reform
Ownership	State government-owned	The mix of privatised and corporatised ports
Labor System	General Agreement (1977) based on a labour pool	Enterprise-based agreements
Port Model	Public utility function	Transition to commercial focus with some ports fully privatised
Regulatory Control	State governments	Retained by state governments but with a commercial focus
Efficiency	Less efficient due to labour constraints	Improved efficiency and productivity

Source: Author from Everett et al.,2013

SWEDEN

Sweden's maritime sector, deeply rooted in its historical context, has undergone a transformative journey over the past few decades. Traditionally, Swedish ports operated under municipal ownership, ensuring a cohesive approach to operations and infrastructure ownership. However, the winds of change began to blow in the 1990s, with a pronounced shift towards privatisation. This transition became motivated by utilising an overarching choice to beautify operational performance and bolster competitiveness on the worldwide stage.

Although these reforms appeared beneficial in theory, their practical results were varied. The initial phase post-privatisation witnessed tangible gains in operational efficiency, but this positive trajectory was full of hurdles. Ports grappled with escalating prices, recurrent commercial disputes, and a noticeable stagnation in infrastructural investments. The lofty promises of privatisation, encompassing heightened competition and superior service quality, remained elusive for several ports (Cullinane et al., 2021).

Delving deeper into the Swedish context, the port region's speciality lies in its included operations and infrastructure possession approach. This integrated model underwent a paradigm shift with the privatisation of pivotal ports, with the Port of Gothenburg as a top example. This strategic move was in tandem with Sweden's alignment with the transport reforms initiated by the European Union. At the same time, Sweden has comprehensive records of private ports, even though the privatisation of enormous container hubs represented a splendid shift from conventional practices. The 2010 privatisation of the Port of Gothenburg, Scandinavia's primary gateway, was a watershed moment, though this transition had its share of challenges. Port workers, backed by their unions, voiced apprehensions regarding potential deteriorations in their working conditions, underscoring the complexities inherent in such large-scale reforms (Bergqvist & Cullinane, 2016).

Table 3 : Sweden's Port Reform

Aspect	Before Reform	After Reform
Ownership Structure	Integrated entities managing both operations and infrastructure.	Privatisation of crucial ports like Gothenburg, with private firms assuming operational control.
Economic Impact	Ports facilitated over 90% of foreign trade, complemented by numerous smaller private ports.	Persistent reliance on ports for trade, punctuated by the privatisation of major hubs.
Port Workers' Sentiments	Workers enjoyed stable conditions under the integrated port framework.	Growing apprehensions and resistance from port workers, with unions expressing concerns over potential deteriorations in work conditions.

Aspect	Before Reform	After Reform
Privatisation Process	Restricted privatisation, predominantly catering to bulk cargoes.	Privatisation of significant container hubs via competitive tendering, anchored by 25-year concession agreements.
Port of Gothenburg's Role	Established dominance as Scandinavia's primary gateway, operating under an integrated model.	2010 marked its significant privatisation, positioning it as one of Sweden's most monumental endeavours.

Source: Author from Bergqvist & Cullinane, 2016

NETHERLANDS

The Dutch maritime landscape, especially with ports like Rotterdam, has been a cornerstone in Europe's shipping and exchange sports. These ports operated under public possession, serving as critical gateways for European trade. However, as the global maritime quarter evolved, there emerged a need for ports to be extra agile, green, and financially strong. This realisation led to a significant shift in the late 20th century that specialised in corporatisation, aiming to integrate private-region efficiencies, retaining the strategic advantages of public possession.

The Port of Rotterdam's transformation into a corporatised entity in 2004 marked a momentous moment in its history. Before this transition, the Port of Rotterdam Authority (PoR) functioned as a distinct municipal department with its financial accounts, yet it was intricately tied to the local public administration. This structure, while providing stability, often needed more operational flexibility. (Saragiotis & Langen,2017)

The corporatisation in 2004 brought about several changes. The port ownership was redefined, with the municipality of Rotterdam holding approximately 70% and the Dutch state owning the remaining shares. This shift was observed by establishing an independent supervisory board, ensuring stronger oversight and governance. The port's management also observed a restructuring, introducing key positions including CEO, COO, and CFO. Furthermore, the operations of PoR got here under Dutch opposition regulation, ensuring market equity and competitiveness.

The post-corporatisation phase showcased the tangible advantages of this transition. The port witnessed better control over its operating costs and expanded revenue streams without significant increments in port dues. Notably, from 2003 to 2011, the net profit of the port tripled, underscoring the financial advantages of the corporatisation.

The success of the Port of Rotterdam's corporatisation sets a precedent. Other major Dutch ports, including Groningen Seaports, Zeeland Seaports, Amsterdam, and Moerdijk, took inspiration from Rotterdam's journey and embarked on their corporatisation initiatives. (Saragiotis & de Langen,2017)

Table 4 : Netherlands Port Reform- Corporatisation

Metric	1997	2003	2005	2011
Total revenue (€ millions)	453	457	486	588
Port dues (€ millions)	246	228	253	291
Land rents (€ millions)	153	197	203	267
Employees	1,165	1,304	1,268	1,220
Turnover per employee (€)	389,000	350,000	383,000	482,000
Operating costs (€ millions)	210	238	245	226
EBITDA (€ millions)	242	219	241	362
Net profit (€ millions)	62	64	81	195
Profit per employee (€)	53,000	49,000	64,000	160,000
Investments (€ millions)	167	127	-	-

Source: Author from Saragiotis & de Langen,2017

CHINA

China's port reforms have been intricately linked with its broader economic liberalisation and global ambitions. The upward thrust of its container ports in recent years is a testament to its strategic motive to reshape international delivery networks. In this context, seaports provide a strengthened street to apprehend the nuances of

business reform, specifically in the backdrop of extensive foreign direct investment inflows. These inflows, commonly from terminal-operating multinationals, aimed to establish a foothold in China's developing port industry. This massive corporate participation at the terminal level has led to a shift in governance configurations, emphasising the internationalisation of port management practices.

The late 20th century saw China designating 14 coastal cities as 'open cities', a move that, although not directly aimed at port development, had a positive ripple effect on ports due to the surge in FDI and associated international trade. By the end of the 1990s, China had established 235 ports, with a staggering 78% of them set up post-1980. This speedy development became a testament to China's commitment to bolstering its maritime infrastructure. (Wanga et al.,2004)

However, the adventure becomes hard. China's ports grappled with issues like inadequate physical infrastructure, a loss of deep-water ports via international standards, and bureaucratic crimson tape. Nevertheless, the overarching imaginative and prescient changed into clean: to modernise and internationalise its ports, making them pivotal nodes in the global exchange network. The reforms were about more than physical infrastructure as they delved deep into the institutional fabric, emphasising the separation of governmental sports from port organisations, decentralising port governance, and fostering surroundings conducive to domestic and foreign investments. The overarching aim was to make China's delivery networks and infrastructural competencies more aligned with worldwide standards. (Wanga et al.,2004)

In essence, China's port reforms replicate its global aspirations, its strategic motive to be a dominant player in the maritime region, and its commitment to modernising its institutional and infrastructural frameworks in keeping with global pleasant practices.

Reform Outcomes:

The ongoing reforms emphasise the internationalisation of China's port-centric enterprises. Joint ventures were favoured, permitting non-public region participation at the same time as preserving substantial country control. These reforms have positioned China as a dominant participant in the worldwide port quarter, with Chinese organisations now having a presence in several global ports.

- **Port Reform and Privatisation in China:**

1. **Dual-Track Control System (1984-2003):**

- The port city's government was the leading actor, with the central government playing an auxiliary role.
- The central government-owned ports, but control over port operations and investment was liberalised.
- Both domestic and foreign enterprises could invest in ports.
- The main aim was to separate the government's role from an enterprise's interest in port development.
- This system faced challenges as the port authority played dual roles, which hindered actions based on market mechanisms.

2. **Decentralised Port Governance Mode:**

- Aimed at separating governmental activities from those of the port enterprise.
- Each port city had its port group corporation.
- The central government delivered port ownership to the port city.
- Both the city government and domestic or foreign enterprises could invest in the port and operate terminal businesses.
- This reform encouraged various entities to invest in ports and rapidly improve port capacity and services.

3. **OPOP Reform (2015):**

- Adopted administrative and economic means to integrate provincial ports.
- Established publicly owned provincial port group corporations to coordinate the management and operation of all provinces' ports.
- The goal was to manage port supply through a relative concentration of control, forming a port cluster with clear hinterland partitioning.
- This reform aimed to alleviate the competition among ports.

Port Types

- Private Service Ports: Ports like Hong Kong, where private enterprises hold ownership and operation rights.
- Landlord Ports: The government owns the port, and after construction, the port terminal is leased to one or more terminal operating companies.

The data indicates that China underwent extensive port reforms to improve its governance, operations, and competitiveness. The reforms aimed to split governmental roles from agency pastimes, decentralise port governance, and integrate provincial ports for better coordination and control. (Yang et al.,2022)

Table 5 : China Port Reform

Aspect	Before Reforms	After Reforms
State-owned Enterprises (SOEs)	- Administration and operation were combined.	- Separation of administration from operation. More apparent allocation of responsibilities between government and enterprises.
Port Development Policies	- Emphasis on physical construction (hardware). Port projects were capital-intensive, time-consuming, and had a low return rate.	- Emphasis on managerial and institutional aspects (software). Joint ventures in port projects and operations were given preferential treatment.
Foreign Investments	- Limited foreign participation in port projects.	Most entering foreign firms were of ethnic Chinese background, such as HPH and the Port of Singapore Authority (PSA Corp.).
Public Enterprise Management	- Emphasis on physical construction during the 1980s.	- Reforms in the 1990s focused on managerial and institutional aspects.
Ownership & Control	- Concerns about foreign control over port projects, especially from aggressive entries like Hong Kong's HPH.	- Policy reverted in 2003 to abolish ceilings on foreign ownership at the terminal level.

Source: Author from Yang et al.,2022

SINGAPORE

Singapore's strategic location has historically been a pivotal maritime hub. The past due 20th-century reforms were designed to reinforce this worldwide status, with the overarching intention of sustainable port metropolis development. These reforms concerned financial growth and ensured the port's enlargement harmonised with broader city improvement dreams. Technological improvements had been a considerable part of those reforms, placing Singapore on the leading fringe of port innovation and essential overall performance.

The stability of Singapore's political environment, with beneficial organisation conditions and a contemporary day infrastructure, has made it an attractive destination for remote place's direct investment. This inflow of investment has been a tremendous driving force for the financial system. Singapore's herbal deep-sea ports and strategic function at the intersection of extensive delivery routes have made change a crucial economic pillar. Over 5,000 maritime companies, including over 130 international shipping groups, operate in Singapore, reinforcing its role as a vital international maritime transport hub (Mak,2007).

Key Points:

1. Overview:

- Singapore's seaport is recognised as the world's leading transshipment hub, offering connections to over 600 ports across 123 countries. The island's unique geography has played a pivotal role in the dynamic growth of maritime transport (Mindur,2020).
- Historically, Singapore served as a transshipment hub for both regional and global trade. After gaining independence in 1965, it faced competition from other regional ports, leading to a shift towards importing raw or semi-processed products and exporting the processed goods (Mindur,2020).

2. Economy of Singapore:

- From its post-colonial beginnings, Singapore has rapidly transformed into a leading Southeast Asian business, commerce, and finance centre. Its economy thrives in a stable political environment bolstered by favourable business conditions and a sophisticated infrastructure (Mindur,2020).
- The service sector contributes nearly 70% to the GDP, while industry and construction account for over 30%. The maritime industry contributes 7% to the GDP and employs over 170,000 individuals (Mindur,2020).

3. Ownership Structure vs. Port Management:

- The state manages the Port of Singapore. The Maritime and Port Authority of Singapore (MPA) is responsible for its administration and supervision, operating with the government and maritime partners to ensure the port's non-stop increase. (Heracleous,2001).

4. Port Organization and Infrastructure:

- Singapore's port operations are primarily divided between two major groups: PSA Corporation Limited, which mainly handles container transshipment, and Port Jurong, which is responsible for general, bulk, and container cargo. Both ports are equipped to accommodate all vessel types. (Heracleous,2021)

5. PSA Singapore:

- PSA Singapore boasts 67 quay berths at its container terminals. In 2018, it managed 36.31 million TEU of containers, representing nearly one-seventh of the global container transshipment capacity.
- The Pasir Panjang terminal, PSA Singapore's flagship, has cutting-edge transshipment machinery and equipment. Currently, it is in the testing phase for a fully automated electric crane system and other advanced technologies. (Mak,2007)

6. Privatisation in Singapore:

- Singapore's privatisation program was formally announced in March 1985, with the Public Sector Divestment Committee (PSDC) formed in January 1986. The PSDC examined 99 GLCs, recommending 15 for listing, 9 for further privatisation, and 17 for total privatisation (Kwek et al.,2021)
- The reasons for privatisation included withdrawing from commercial activities that no longer needed public sector involvement and adding breadth and depth to the Singapore stock market (Kwek et al.,2021)
- Major GLCs expected to be privatised shortly include Singapore MRT (rail), Singapore Power (utility), and PSA Corporation (port) (Kwek et al.,2021).

Table 6: Singapore's Port Reform

Aspect	Before Reform	After Reform
Ownership	Primarily state-owned	Partial to complete privatisation, with the government retaining significant shares in some entities
Performance	Most GLCs and statutory boards were profitable at the start of the privatisation program.	Improved operating performance post-privatisation, with significant enhancements in profit margins and return on assets.
Market Capitalization	Limited market capitalization due to state ownership	GLCs controlled by Temasek Holdings accounted for about 25% of stock market capitalization as of April 2000
Reasons for Retaining Government Ownership	Strategic national interests and control over essential services	Concerns about succession, market absorption capacity, and ensuring the right share price.

Source: Author from Heracleous,2021

TAIWAN

Taiwan's port region has experienced a profound metamorphosis in its governance and operational dynamics. Commercial ports in Taiwan were perceived as a public utility, with the central government shouldering responsibilities encompassing financing, public service provision, management and oversight of seaports. Despite that, the post-1990s era, marked by accelerated economic growth, steered Taiwan towards economic liberalisation and internationalisation. This strategic pivot is underpinned by Taiwan's aspirations to secure the WTO club. Consequently, the port industry witnessed significant deregulation.

These reforms' overarching objective turned to strengthening port performance and positioning Taiwan as a formidable trans-cargo hub in the East Asian place. To comprehend these dreams, the authorities embarked on a multi-pronged reform strategy. This encompassed the restructuring of port administrative entities, privatising port facilities and services, and the dissolution of the traditional dock labour employment system. The culmination of these reforms was the transformation of Taiwanese ports into the landlord model, wherein the Harbour Bureaux maintained its regulatory oversight but divested many operational responsibilities (Everett et al., 2013).

Table 7: Taiwan's Port Reform

Aspect	Before Reform	After Reform
Ownership	Government-owned	Transition to a landlord model
Labor System	Dock labour pool system overseen by trade unions	Shift to an enterprise-based employment system
Stevedoring Operations	Administered by Harbour Bureaux	Transitioned to private sector entities
Regulatory Control	Harbour Bureaux	Continued oversight by Harbour Bureaux

Aspect	Before Reform	After Reform
Efficiency	Constrained efficiency due to labour-centric operations	Enhanced efficiency marked by a 33% reduction in dock labour workforce, translating to cost savings for port users

Source: Author from Everett et al.,2013

UNITED KINGDOM

The UK's port sector has continually been a cornerstone of its economic and alternate sports. With its extensive coastline and strategic location, the UK has historically been a maritime nation. The 1980s marked a significant shift in the UK's port management method. The government initiated a comprehensive port privatisation journey driven by the broader national privatisation agenda. This move aligned with the global fashion of moving from public to personal ownership to beautify efficiency and competitiveness. Privatising ports was seen as a means to infuse capital, introduce advanced technologies and foster a competitive environment.

While the overarching goal of privatisation was to bolster efficiency and competitiveness, the outcomes were mixed. On the one hand, some ports experienced significant investments and technological advancements. Conversely, worries emerged regarding elevated port charges, faded intra-port opposition, and a perceived stagnation in infrastructural investments. The post-privatisation era also witnessed debates on whether the planning paradigms aligned with the broader public interests. There were instances where commercial interests seemingly overshadowed public welfare, leading to discussions on the actual efficacy of the reform trajectory (Moore,1992)

The Port of Felixstowe is a unique testament to the capacity of non-stop personal ownership within the maritime zone. Unlike many ports that underwent privatisation reforms, Felixstowe's trajectory has been consistently shaped by its unwavering private ownership. This distinct narrative gives a fresh perspective on the broader discourse surrounding port privatisation and governance.

Felixstowe's roots trace back to its establishment in 1886 by a local company. Since 1991, HPH (Hutchison Ports UK) has owned and operated it, a subsidiary of the Hong Kong-based corporation Hutchison Whampoa Limited. This ownership structure has facilitated the port's growth and attracted extensive overseas investments, positioning Felixstowe as the UK's busiest container port. The port's consistent private ownership has allowed it to operate with a commercial mindset, which has been instrumental in its evolution as a leading European container port (Hutchinson Ports,2023).

Ports like Felixstowe have a strategic role within the European logistics framework, drastically enhancing alternate and rising regional competitiveness. Their importance must be recognised in the context of an economic boom. However, these ports additionally navigate challenges, particularly in the face of intense competition and the shifting dynamics of worldwide exchange. The want to conform and innovate is paramount, and Felixstowe's non-stop investments in technology and infrastructure underscore this.

The port's geographical advantage and present-day centres have made it a top choice for worldwide transport lines, reinforcing its standing within the maritime industry. Although, the adventure is not without its hurdles. Balancing industrial hobbies with broader public targets, ensuring transparent governance and addressing capacity monopolistic inclinations are areas of focus. The emphasis on sustainable development, mainly through the adoption of long-lasting materials, showcases a dedication to operational excellence and environmental duty. (Baird,1999)

Nevertheless, this journey has been challenging. Concerns about ability monopolistic tendencies, regulation, and service first-class guarantee have emerged. These demanding situations underscore the importance of aligning private commercial hobbies with broader public goals, ensuring prominent governance systems, and constantly investing in infrastructure and technological advancements.

The achievements and narrative of the Port of Felixstowe have had a profound effect on the maritime enterprise, placing benchmarks for other ports considering the deserves of private possession. Its agility in adapting to market fluctuations, commitment to technological innovation, and emphasis on efficient operations have been exemplary. Furthermore, its sustainable improvement approach, specifically the adoption of long-

lasting materials, has been acknowledged for boosting operational abilities and even selling environmental sustainability.

The Port of Felixstowe's narrative, enriched by the insights from the supplied documents, underscores its strategic tasks, partnerships, and vision for the future. The port's efforts to streamline operations, enhance consumer experience, and champion sustainability tasks indicate its ahead-wondering technique and unwavering dedication to remain a maritime innovation leader. (Monios,2016).

Examining port reforms throughout specific international locations famous diverse strategies and outcomes. While many nations have embarked on port reform journeys, complete privatisation remains a less common strategy. Notably, only the UK and select ports in Australia have taken the step of total privatisation. This difference underscores the complexity and multifaceted issues influencing port ownership and management selections. The selections made by each country replicate their unique economic, political, and strategic contexts, emphasising the want for tailored strategies in port reform endeavours.

2.6 Gaps in Existing Literature

The scholarly discourse surrounding the Thessaloniki Port and Port of Santos offers a rich tapestry of insights; however, it concurrently unveils superb gaps that focus on the intricate nature of port operations and the multifaceted dimensions of privatisation. Much of the studies are based totally on niche regions, including economic results, prison intricacies, or the instant repercussions of privatisation, leaving significant regions of ability exploration untouched. A striking observation is the challenge of sourcing comprehensive data on specific ports, like the Port of Felixstowe, for a before-and-after privatisation analysis. This facts scarcity impedes information on the port's transformation and gives hurdles for stakeholders aiming to derive insights or draw parallels for destiny port privatisation tasks.

Moreover, the triumphing literature regularly takes a myopic view, overlooking broader systemic influences, lengthy-term strategic implications, and the sensitive stability between public and private stakeholders inside the port surroundings. Such a limited scope risks portray an incomplete picture, neglecting the elaborate dynamics and

cascading results that most important reforms introduce. The following are the key areas where existing literature falls short:

1. Historical Context and Evolution:

The literature on these two ports often needs a comprehensive historical perspective. While some information is about their cutting-edge operations and latest tendencies, there must be a significant gap in understanding their ancient evolution, transformation, and the function they performed in one-of-a-kind ancient intervals. This lack of ancient context limits the potential to apprehend the ports' significance and the elements that shaped their growth and improvement.

2. Privatisation Process and Stakeholder Perspectives:

Research on the privatisation processes of the Thessaloniki Port and Port of Santos focuses on legal and economic aspects. The numerous views of stakeholders, such as labour unions, nearby groups, and environmental advocates, need to be more represented. This hole limits information port privatisation's complexities and multifaceted nature, overlooking the social and political dynamics that affect the approach.

3. Environmental Impact and Sustainability Initiatives:

While some reports discuss sustainability initiatives, there needs to be more in-depth research on the environmental impact of these ports. A comprehensive analysis of their environmental footprint, sustainability measures, and potential areas for improvement needs to be included. This hole hinders the development of powerful techniques to minimise environmental damage and sell sustainable practices.

4. Economic Impact and Regional Development:

The literature emphasises monetary usual performance but frequently overlooks the broader impact of these ports on nearby development. Research on their contribution to socio-financial growth, technique introduction, and local integration is scarce. This lack of assessment restricts statistics on the ports' role in fostering monetary resilience and development within their respective areas.

5. Comparative Studies:

There needs to be more comparative studies that analyse these three ports about each other and other international ports. Such studies offer insights into quality practices, demanding conditions, and port control and privatisation opportunities, fostering collaboration and expertise sharing throughout the industry.

6. Long-time period Impact of Privatisation:

Most studies recognise short-term results and plans, leaving a gap in information on the lengthy-term impact of privatisation on those ports' operations, competitiveness and alignment with global standards. This loss of long-term attitude hampers strategic planning and fails to address capacity for future challenges and opportunities.

7. Technological Advancements and Innovation:

Research on technological advancements and innovation techniques at those ports must be more extensive. Exploring their readiness to conform to future developments and demanding situations within the maritime enterprise is needed. This gap in research limits the ability to leverage generation for overall performance, safety, and sustainability.

8. Challenges in Data Collection and Research Methodology:

Researchers and analysts regularly face demanding situations to access accurate, comprehensive, and up-to-date information about those ports. The lack of standardised information, inconsistencies in reporting, and limited availability of the number one property restrict the capacity to conduct thorough studies and evaluations. This venture underscores the want for collaboration, transparency, and standardisation in records collection and reporting throughout the maritime organisation.

These gaps in existing literature spotlight the complexity of port operations and the need for a greater holistic and multidimensional technique for research and evaluation. Addressing those gaps would contribute to a more prosperous expertise of the Thessaloniki Port and Port of Santos, enhancing choice-making, insurance components, and strategic planning in the maritime sector.

Chapter 3: Theoretical Framework and Research Methodology

3.1 Research Design and Approach

The research design is rooted in a mixed-approach technique, a complete approach that amalgamates quantitative research strategies. This methodological choice is pushed by using a manner of the inherent complexity of port privatisation, which demands a multifaceted exploration to capture its numerous dimensions.

Initially, the research delves into an intensive examination of case research from numerous port reforms. This phase is instrumental in elucidating the numerous control systems that have emerged from brilliant ports and areas sooner or later. By dissecting those case research, the research aims to find styles, stressful conditions, and incredible practices that have shaped the trajectory of port reforms globally. Following this, the look starts a thorough exposition of port typologies. The studies attempt to categorise and check several styles of ports to offer solid fundamental statistics of the marine business organisation employer's unique operational and governance fashions. This phase is significant because it lays the inspiration for the subsequent research and ensures the reader has a smooth conceptual framework to understand the intricacies of port upgrades. At the significant part of this study lies a centred examination of ports Santos and Thessaloniki. These ports were selected not merely for his or her operational importance but also due to the charming political narratives that underpin their reform journeys. Both ports in strategic locations have witnessed a confluence of political manoeuvrings and economic imperatives, forming their reform trajectories. The political undertones provide a wealthy tapestry of insights, revealing how country agendas and community geopolitics can profoundly affect port operations and reforms.

Furthermore, the precise geographical locations of those ports grow their significance in the international maritime panorama. Their positions have constantly stimulated operational strategies, stakeholder interactions, and reform consequences. By juxtaposing the political narratives with the geographical imperatives, this study desires to offer a nuanced understanding of the intricacies of port privatisation. The blended-technique technique excels at bringing those disparate threads together. It permits a thorough empirical look supported via qualitative insights, ensuring that the studies cover each macro and local dimension of port privatisation. Using this all-encompassing perspective, they look at pursuits to present a picture of the port

privatisation panorama, highlighting its problems, possibilities, and capacity for future instructions.

3.2 Data Collection Methods

The basis of this study is constructed upon a precise union of primary and secondary record resources, each contributing splendid insights to the check.

Primary Data Collection: The preliminary data for this research was predominantly sourced from annual and sustainability reports of the Port of Santos and the Port of Thessaloniki. These evaluations on their authentic websites provide a wealth of records, from operational metrics to strategic duties and sustainability goals. They offer a firsthand account of the ports' overall performance, annoying situations and destiny outlook, making them helpful to this study. Additionally, books on port economics (Talley,2009) were consulted better to understand the broader maritime industry and its evolving dynamics. This number one statistic affords an immediate window into the operational realities of the ports in question, ensuring the research is grounded in actual global contexts.

Secondary Data Collection: Secondary data, on the other hand, came from various sources. The theoretical and contextual framework of the observation become substantially shaped by the frame of current literature, which used scholarly papers, studies summaries, and previous dissertations. These substances depicted a broader mindset, allowing the studies to region the recollections of Santos and Thessaloniki within the more massive discourse on port upgrades. The research could discover similarities, spot patterns, and first-rate practices that have arisen in port adjustments worldwide by analysing case studies from numerous secondary resources.

The technique for collecting facts changed into being substantial, making sure that the research covers the numerous natures of port privatisation. The study seeks to provide a complicated, intense and educational exploration of the concern utilising fusing ideas from primary and secondary sources.

3.3 Data Analysis Techniques

Upon collection, the data become subject to a unique analytical method to this research's nature and objectives. Specifically, this observation predominantly utilised quantitative records. This choice was enhanced by using the need to objectively evaluate records from particular ports, facilitating more evident expertise in port reforms' variations. The evaluation method evolved iteratively, drawing notions from present literature on port reforms and comparative case observation methodologies. The primary objective is to craft a robust analytical framework to capture each instance's port operations, governance and stakeholder dynamics nuances.

The quantitative data is processed using diverse statistical tests. These analytical gears were employed to discern meaningful styles, relationships and developments inside the records. The research aimed to offer a solid and empirical basis for its findings by using that specialise in quantitative facts. This approach ensured that the comparisons amongst ports have been grounded in concrete metrics, offering a smooth and goal differentiation of port reforms across numerous contexts.

3.4 Rationale for Choosing Thessaloniki and Santos

A combination of education and practical considerations led the decision to focus on the ports of Thessaloniki and Santos. Initially, the selection of Greece and Brazil as countries of interest was influenced by their unique geopolitical, economic and maritime importance in their respective areas. Both countries have a wealthy maritime history, and their ports are vital to international maritime trade.

As one of the fundamental ports of Greece, Thessaloniki gives a view of the European seaport, especially in the Mediterranean. Its strategic vicinity, ancient importance and recent reforms make it a compelling case to examine. The port's transformation, specifically post-privatisation, has been noteworthy. The privatisation of the Port of Piraeus by COSCO in 2016 serves as a testament to the potential benefits of such reforms. The fulfilment process of Piraeus, coupled with the supply of reviews and case research on its operations publish-privatisation, enriched treasured insights and set a precedent for analysing the impact of similar reforms in Thessaloniki.

On the other hand, Santos, the largest port in Brazil and South America, offers insights into the demanding situations and possibilities of rising economies within the international maritime quarter. Brazil's precise role as a Latin American country.,

grappling with socio-financial challenges like poverty and political instability, complicates the port privatisation narrative. While many of Brazil's ports are already private, political dynamics, such as elections, have intermittently impacted privatisation. The availability of throughput analysis reviews for Brazilian ports enriched the research, presenting an entire view of the port's operations and the broader maritime landscape.

Beyond the academic cause, a private interest focused on those two ports. The elaborating interaction of worldwide trade dynamics, nearby challenges and the transformative capacity of reforms in both Thessaloniki and Santos presented a charming research puzzle. The preference to unravel this puzzle, recognise the underlying drivers and contribute to the broader discourse on port reforms has become a good-sized motivating component.

Chapter 4: Comparative Analysis of Port Privatisation: Thessaloniki and Santos

4.1 Overview of Port Privatisation in Greece

The strategic positioning of Greece, bridging Europe with Asia and Africa, has historically rendered its ports significant maritime hubs. Recognising the ability of its ports to bolster the national financial system, the Greek government launched a series of privatisation projects, especially in the wake of the monetary demanding situations of the 2000s.

The role of ports in the economic improvement of port cities, particularly in Greece, cannot be understated. Ports have traditionally contributed to the economic power of port towns through facilitating exchange, generating employment and attracting investments. However, the monetary crisis and the subsequent port governance reforms added to several demanding situations port cities face. These demanding situations protected competition from unique ports, environmental worries and the need for infrastructure improvement. Despite these challenges, ports continued to play a crucial role in the economic development of port cities, necessitating strategic planning and investments to maximise their potential (Pallis & Vaggelas,2017).

In modern-day years, the privatisation of Greek ports has garnered global interest, with several international traders expressing their purpose to spend money on them. The privatisation process is seen as a strategic move to attract foreign investments, enhance

port efficiency and position Greek ports as leading maritime hubs in the Mediterranean region (Chambers,2022).

In 2019, Greece initiated a privatisation drive targeting its second-tier ports, following the successful privatisations of its two major ports: Piraeus, acquired by the Chinese firm COSCO and Thessaloniki, taken over by South Europe Gateway Thessaloniki. The privatisation program encompassed several ports, including Alexandroupolis, Heraklion, Igoumenitsa, Kavala, and Volos. (Karagiannis,2021). Alexandroupolis, the country's third-largest port, stands out due to its geopolitical and geographical significance. Already a strategic hub, its capacity for similar improvement is prominent, particularly with plans for two floating LNG devices near the port's commercial area. The port of Kavala also witnessed vast effects. In May 2022, a consortium comprising GEK Terna, EFA Group, and Black Summit secured the concession agreement for this port. (Karagiannis,2021)

Privatising those ports is anticipated to herald possibilities in numerous sectors, including machine, logistics, cybersecurity and task management. The emphasis on cybersecurity is mainly noteworthy, given the rising worldwide concerns about securing excessive-value infrastructure assets. Moreover, the Greek authorities' inclination toward employing task managers to supervise obligations performed through companions underscores the significance of robust challenge control in this domain.

4.1.1 Port of Thessaloniki

The Thessaloniki Port, Greece's second-biggest city, is a testament to the state's wealthy maritime records. Located within the Thermaic Gulf, this port has been a linchpin for alternate transportation since its inception in 315 BC, bridging Greece with Europe, Asia, and the broader Mediterranean location. Over the centuries, the port has silently witnessed excessive historical transitions, leaving an indelible mark on its person and operations. In present-day instances, the Thessaloniki Port remains a fundamental conduit for international commerce, bolstering countrywide and local economic material. Its multifaceted infrastructure, encompassing field terminals, bulk cargo, and passenger ferries, underscores its pivotal function in maritime logistics. The port's importance is also accentuated by its integration with predominant transport arteries, which include railways and highways, ensuring the fluid transit of commodities and people. (Wikipedia, 2023)

The journey towards the privatisation of the Thessaloniki Port commenced in the early 21st century, embedded within Greece's overarching economic metamorphosis. Initiated in 2014, this endeavour sought to magnetise foreign capital, augment operational efficacy and refurbish the port's foundational infrastructure. Spearheaded by the HRADF, a rigorous tendering mechanism was set in motion. Among the contenders was ICTSI, a global stalwart in port management. Their bid was fortified by legal counsel from HFW, an international law consortium, ensuring meticulous adherence to regulatory mandates and astute negotiation strategies. (Reuters,2017)

The culmination of this process was marked in 2018 when a consortium amalgamating Deutsche Invest Equity Partners, Terminal Link SAS, and Belterra Investments acquired a commanding 67% stake in the Thessaloniki Port Authority, incurring an expenditure of €231.9 million. This acquisition, even as adhering to the criminal and regulatory tapestry, also heralded a commitment of over €a hundred and eighty million in the direction of the port's rejuvenation over the following seven years. This capital infusion is predicted to catalyse the port's aggressive edge, increase its shipment throughput and generate employment avenues. A glimpse into the financial trajectory of the Thessaloniki Port Authority for the three quarters of 2022 unveils promising trends. With revenues touching €44.8 million, marking a 7.2% ascent, and a net profit after taxation of €8.5 million, evidencing a 27.5% surge year-on-year, the port's fiscal health appears robust. Concurrently, investments of €5.5 million resonate with the port's visionary development blueprint. (UNCTAD,2018)

Nevertheless, the path to privatisation was strewn with obstacles. The socio-political milieu was rife with apprehensions, primarily from labour unions and local stakeholders, who viewed this transition with scepticism, fearing job redundancies, altered working paradigms and the relinquishment of a strategic national asset to foreign entities. The ensuing protests and commercial enterprise actions epitomised these tensions. In this evolving narrative, environmental stewardship has emerged as a cornerstone of the port's ethos underneath its new manipulation. Several tasks aimed toward curtailing emissions, optimising waste control and improving electricity conservation were unveiled, underscoring a determination to sustainable operations. (Pallis,2018)

The odyssey of the Thessaloniki Port's privatisation, replete with its triumphs and tribulations, gives a microcosmic view of the broader discourse on port privatisation. It elucidates the balance between financial imperatives and societal ethos, paving the way for destiny endeavours in comparable terrains.

4.1.2 Pre-Privatisation of Thessaloniki Port

With its maritime significance, the Thessaloniki Port has been a pivotal hub in Greece's trade and transportation matrix. It is imperative to trace its financial and operational trajectory from 2013 to 2017 to comprehend the rationale behind its privatisation.

Financial Overview (2013-2017)

Over the five years leading up to 2017, the Thessaloniki Port Authority (ThPA SA) exhibited a dynamic financial landscape. A year-on-year analysis from 2013 to 2017 underscores a fluctuating yet resilient financial performance.

- **Gross Profit:** Starting from €22,924,773 in 2013, there was a peak in 2014 at €27,977,902. However, by 2017, the gross profit experienced a decline, settling at €21,809,467.
- **Net Profit:** The net profit trajectory began at €18,187,851 in 2013, reaching its zenith in 2014 at €21,300,404. By 2017, it tapered to €7,242,954.
- **EBITDA:** The EBITDA, a measure of operational efficiency, started at €23,510,211 in 2013, with its highest point in 2014 at €29,424,347.16. By 2017, it adjusted to €18,849,984.
- **Turnover:** The turnover, indicative of the port's revenue stream, began at €51,560,096 in 2013, and despite minor fluctuations in the intervening years, it increased to €54,231,940 by 2017. (ThPA SA,2013-2017)

Operational Overview (2013-2017)

From an operational standpoint, the port's performance metrics reveal a story of resilience and adaptability over the five years.

- **Total Cargo Handling:** The port handled 6,850,480 tons of cargo in 2013. After that, a decline was observed until 2016, but 2017 saw a revival close to the 2013 figures, with 6,905,294 tons.

- **Container Throughput:** Container operations started with 322,310 TEU in 2013, peaking slightly in 2015 with 351,741 TEU. By 2017, the throughput further increased to 401,947 TEU.
- **Passenger Movement:** The port witnessed a decline in passenger movement from 47,841 in 2013 to 26,356 in 2016. However, 2017 marked a significant rebound with 69,508 passengers.
- **Ship Arrivals:** The number of ships docking at the port started at 1,819 in 2013, saw a peak in 2014 with 2,097 ships, and by 2017, the number was 1,936. (ThPA SA,2013-2017)

Table 8 : Pre-Privatisation Operational Metrics for Thessaloniki Port

Metric	2013	2014	2015	2016	2017
Container Throughput (TEU)	322,310	349,990	351,741	344,316	401,947
Total Cargo Holding (Tons)	6,850,480	7,654,787	6,904,174	6,119,171	6,905,294
Passengers	47,841	44,586	26,356	26,356	69,508
Ships	1,819	2,097	1,983	1,828	1,936

Source: Author from ThPA SA (2013-2017)

Table 9: Pre-Privatisation Financial Metrics for Thessaloniki Port

Metric	2013	2014	2015	2016	2017
Gross Profit(€)	22,924,773	27,977,902	24,514,351	21,081,796	21,809,467
Net Profit(€)	18,187,851	21,300,404	17,915,015	14,084,474	7,242,954
EBITDA(€)	23,510,211	29,424,347	26,861,415	23,877,734	18,849,984
Turnover(€)	51,560,096	56,280,238	50,881,604	48,061,529	54,231,940

Source: Author from ThPA SA (2013-2017)

Challenges and opportunities marked the period from 2013 to 2017 for the Thessaloniki Port. While specific financial metrics experienced fluctuations, the port's operational resilience ensured its significance in Greece's maritime landscape. The data underscores the port's adaptability and capacity to navigate global trade dynamics' ebb and flow.

4.1.3 Post-Privatisation of Thessaloniki Port

Privatising the Thessaloniki Port in 2018 marked a transformative phase in its operational and financial journey. This chapter provides a comprehensive analysis of the port's performance in the subsequent years, highlighting the changes and trends that emerged post-privatisation.

Operational Performance (2018-2022)

A year-by-year examination of the operational metrics post-privatisation reveals the following trends:

- **Container Throughput (TEU):** Starting from 424,500 TEUs in 2018, there was a consistent increase in container throughput, reaching its peak in 2021 with 471,068 TEUs. However, 2022 saw a slight decline, settling at 463,207 TEUs.
- **Total Cargo Handling (Tons):** The port handled 7,298,218 tons of cargo in 2018. This figure rose steadily, peaking in 2021 with 8,771,998 tons. Yet, 2022 experienced a decrease, with the total cargo handled being 7,756,939 tons.
- **Passenger Movement:** The number of passengers sharply declined from 44,484 in 2018 to 6,273 in 2019. However, there was a gradual increase in subsequent years, stabilising around 8,400 passengers by 2022.
- **Ship Arrivals:** The number of ships docking at the port started at 1,929 in 2018, with minor fluctuations in the following years. By 2022, the number stood at 1,998. (ThPA SA,2018-2022)

Financial Performance (2018-2022)

The financial metrics of post-privatisation underscore the port's evolving economic health:

- **Gross Profit (€):** The gross profit experienced fluctuations over the years, starting at €24,729,265 in 2018 and reaching €25,406,000 by 2022.
- **Net Profit (€):** The net profit began at €17,151,791 in 2018, with its zenith in 2021 at €21,100,000. By 2022, it slightly decreased to €19,786,000.
- **EBITDA (€):** The EBITDA, indicative of operational efficiency, started at €27,604,778 in 2018. It saw a consistent rise, reaching €33,810,000 by 2022.

- **Turnover (€):** The turnover, representing the port's revenue stream, began at €58,534,687 in 2018 and experienced steady growth, culminating at €80,561,000 by 2022. (ThPA SA,2018-2022)

Both operational and financial growth characterised the post-privatisation era for the Thessaloniki Port from 2018 to 2022. The management's strategic decisions and investments post-privatisation have played a pivotal role in enhancing the port's capabilities and positioning it as a significant regional maritime player. The data from these years affirms the positive trajectory set by privatisation, indicating a promising future for the Thessaloniki Port.

Table 10: Post-Privatisation Operational Metrics for Thessaloniki Port

Metric	2018	2019	2020	2021	2022
Container Throughput (TEU)	424,500	448,765	460,780	471,068	463,207
Total Cargo Holding (Tons)	7,298,218	8,263,104	8,104,039	8,771,998	7,756,939
Passengers	44,484	6,273	8,343	8,500	8,400
Ships	1,929	1,829	1,805	1,852	1,998

Source: Author from ThPA SA (2018-2022)

Table 11: Post-Privatisation Financial Metrics for Thessaloniki Port

Metric	2018	2019	2020	2021	2022
Gross Profit(€)	24,729,265	23,034,947	24,588,000	27,225,000	25,406,000
Net Profit(€)	17,151,791	16,452,745	20,084,000	21,100,000	19,786,000
EBITDA(€)	27,604,778	29,747,762	30,922,000	33,444,000	33,810,000
Turnover(€)	58,534,687	68,981,070	71,724,000	76,890,000	80,561,000

Source: Author from ThPA SA (2018-2022)

4.1.4 Comparative Analysis of Thessaloniki Port Pre- and Post-Privatisation

The privatisation of the Thessaloniki Port marked a pivotal transition in its operational trajectory, moving from a state-owned entity to consortium-led management. This chapter offers a comprehensive comparative analysis of the port's performance metrics before and after privatisation, shedding light on the tangible impacts of this significant reform.

Financial Performance:

- **Turnover:** Averaging at €52,203,081 during the pre-privatisation phase (2013-2017), the port's turnover experienced a surge in the post-privatisation period (2018-2022), reaching an average of €71,338,151. This represents a growth of approximately 36.7%.
- **Gross Profits:** The gross profits, which averaged €20,248,740 between 2013 and 2017, escalated to an average of €24,996,642 during 2018-2022, marking a growth of 23.5%.
- **EBITDA:** The average EBITDA for 2013-2017 was €24,753,370. This figure rose to €31,105,708 in the post-privatisation period, indicating a growth of 25.7%.
- **Profits After Tax:** The post-tax profits averaged €15,746,140 from 2013 to 2017 and increased to an average of €18,914,907 between 2018 and 2022, reflecting a growth of 20.2%. (Theofanis & Jepsen, 2020)

Operational Performance:

- **Volume Throughput in Containers:** The port's average container throughput was 355,079 TEUs from 2013 to 2017. This figure expanded to 453,661 TEUs between 2018 and 2022, marking a growth of 27.8%.
- **Conventional Cargo Handling:** The average conventional cargo handling was 6,886,781 tons from 2013 to 2017. This rose to 8,038,860 tons in 2018-2022, indicating a growth of 16.7%.
- **Operational Changes:** In the aftermath of privatisation, the port began accommodating larger vessels, a testament to its enhanced capacity and infrastructural improvements. The port's operations diversified, facilitating a broader range of vessels, from expansive container ships to bulk carriers. This diversification has enabled the

port to serve a more extensive market segment and efficiently manage varied cargo types.

- **Vessel Operations:** The post-privatisation years saw an uptick in the docking of Panamax and New Panamax vessels, reflecting the port's enhanced infrastructure. Moreover, an increase in the frequency of feeder vessels was observed, underscoring the port's evolving role as a transshipment hub. (Ports Europe, 2023)

The comparative analysis underscores the positive trajectory of the Thessaloniki Port post-privatisation. Both financial and operational metrics have shown significant growth, reflecting the benefits of privatisation. The consortium's increased investments, modernisation efforts, and strategic management have played a crucial role in enhancing the port's performance. The comprehensive data delineates a clear trajectory of substantial growth and revitalisation in the maritime sector attributed to the strategic move of privatisation. This transition has launched the ports into a new level of operational efficiency and financial robustness, as evidenced by significant surges in container throughput, cargo handling and turnover rates. However, it has also set the stage for a future marked by heightened competitiveness and sustainability. Notably, the remarkable escalation in average yearly growth percentages across various financial indicators, including a notable increase in EBITDA, underscores the pivotal role of privatisation in fostering economic vitality and paving the way for an era of unprecedented expansion and prosperity in the maritime industry. (Appendix, Table 15)

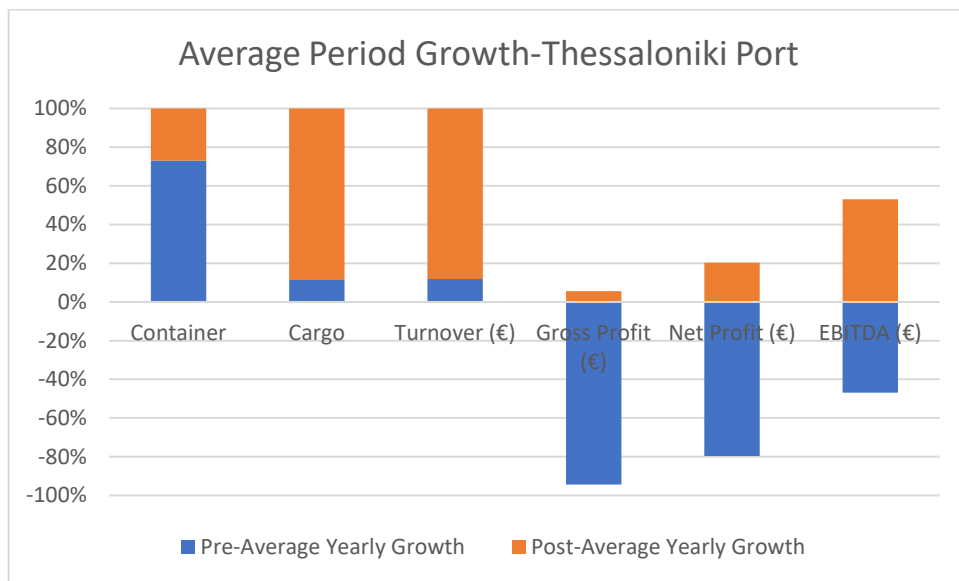
Table 12: Comparison between Pre-Post Privatisation for Thessaloniki Port

Indicator	Pre-Privatisation 2013-2017	Post-Privatisation 2018-2022	Percentage Difference
Container Throughput (TEUs)	355,079	453,661	27.8 %
Average Yearly Growth (%)	24.7	9.1	92.3

Indicator	Pre-Privatisation 2013-2017	Post-Privatisation 2018-2022	Percentage Difference
Total Cargo Handling (tons)	6,886,781	8,038,860	16.7%
Average Yearly Growth (%)	0.8	6.2	154.2
Turnover (€)	52,203,081	71,338,151	36.7%
Average Yearly Growth (%)	5.1	37.6	152.2
Gross Profit (€)	20,248,740	24,996,642	23.5%
Average Yearly Growth (%)	-4.86	2.7	57.1
Net Profit (€)	15,746,140	18,914,907	20.2%
Average Yearly Growth (%)	-60.1	15.3	118.8
EBITDA (€)	24,753,370	31,105,708	25.7%
Average Yearly Growth (%)	-19.8	22.4	12.3

Source: Author from ThPA SA (2017-2018)

Figure 1: Pre-Post Privatisation for Thessaloniki Port



Source: Author from ThPA SA (2013-2022)

Analysing the data from tables 15 & 16 (Appendix) and considering the global GDP growth graph (Figure 4) trends over the last 10 years, we can infer the following about the Thessaloniki port:

Container Throughput (TEUs):

1. Before GDP Correction:

- Change: Decreased (from 24.7 to 9.1)
- Significance: Not significant (no)

2. After GDP Correction:

- Change: Decreased (from 21.61 to 7)
- Significance: Not significant (no)

Total Cargo Handling (tons):

1. Before GDP Correction:

- Change: Increased (from 0.8 to 6.2)
- Significance: Significant (+)

2. After GDP Correction:

- Change: Increased (from -2.29 to 4.1)
- Significance: Significant (+)

Turnover (€):

1. Before GDP Correction:

- Change: Increased significantly (from 5.1 to 37.6)
- Significance: Very significant (++)

2. After GDP Correction:

- Change: Increased significantly (from 2.01 to 35.5)
- Significance: Very significant (++)

Gross Profit (€):

1. Before GDP Correction:

- Change: Increased significantly (from -4.86 to 2.7)
- Significance: Significant (+)

2. After GDP Correction:

- Change: Increased significantly (from -7.95 to 0.6)
- Significance: Very significant (++)

Net Profit (€):

1. Before GDP Correction:

- Change: Increased significantly (from -60.1 to 15.3)
- Significance: Very significant (++)

2. After GDP Correction:

- Change: Increased significantly (from -63.19 to 13.2)
- Significance: Very significant (++)

EBITDA (€):

1. Before GDP Correction:

- Change: Increased significantly (from -19.8 to 22.4)
- Significance: Very significant (++)

2. After GDP Correction:

- Change: Increased significantly (from -22.89 to 20.3)
- Significance: Very significant (++)

After correcting for GDP growth, it appears that the Thessaloniki port has experienced a significant improvement across all the variables considered. The port has shown a positive trajectory in terms of container throughput, cargo handling, turnover, gross profit, net profit, and EBITDA. This suggests that the port has been able to capitalize on the global economic growth, enhancing its operational efficiency and financial health, thereby positioning itself as a competitive entity in the maritime sector.

4.2 Overview of Port Privatisation in Brazil

With its vast coastline and advantageous location in South America, Brazil has long understood the potential of its ports as critical components of its economic engine. Privatizing the port industry has emerged as a crucial tactic in the several projects the Brazilian government has launched over the years to modernise and optimize it. Brazil's journey toward port privatisation began in the 1990s when the nation started economic liberalization measures. Naturally, the ports were at the forefront of these reforms because they were essential to Brazil's trade and economy. The government's main goal was to increase the port system's productivity, competitiveness, and capacity to handle the escalating needs of global trade. (Doctor,2002). The port industry in Brazil has undergone tremendous change and is now defined by a dual regime of port infrastructure. In this split, there are:

1. **Public-Use Port Facilities:** These are inside organized public ports, often called portos. State-owned port authority, often known as "companhias docas" or dock businesses, are in charge of each port. Like the widely accepted "landlord

model," the operation of particular facilities inside these ports is tendered to the private sector through a lease system. Since the passage of Law No. 12,815/2013, popularly known as the "Ports Law," the Brazilian government has been primarily responsible for auctioning off these facilities. However, under certain circumstances, port authorities may be given this task. (Ludwig,2022)

2. **Private-Use Port Facilities:** The responsibility for building and running these facilities falls on the private sector because they are strategically positioned outside public ports and, therefore, not subject to a port authority's regulatory powers. Although Brazil now has 203 such facilities, also called "terminais de uso privado" or TUPs, they must first obtain permission from the Brazilian government to move further. Since the Association of Private Port Terminals (ATP) was founded in 2013, 56 have joined. Collectively, these 56 handle more than 60% of Brazil's total cargo volume. (Ludwig,2022)

Over the past three decades, the private sector's involvement in the port sector of Brazil has increased, working by Law No. 10,233/2001 and subject to the stringent regulation and oversight of the National Agency of Waterway Transportation (ANTAQ). The present paradigm change allows the private sector to create port facilities for private use, participate in port facility auctions for public use, and even assume port authority duties. As a result of this unusual step, they can now run public ports by acquiring state-owned companies under a concessions system. (Ludwig,2022) Furthermore, to capitalize on their strategic locations and economic potential, the Brazilian government nominated several ports for privatisation. These ports were earmarked for infrastructure, technology, and capacity enhancement investments, with the private sector playing a pivotal role in their transformation (Di Bella Filho,2020).

However, this transition is not devoid of challenges. For instance, post the privatisation of Codes', the concession holder for the ports of Vitória and Barra do Riacho will be tasked with negotiating terms with various private sector entities operating within these ports. The objective is to transition from existing lease agreements to new private law-governed agreements, all within a tight timeframe of 180 days. The need for a balanced regulatory framework that could address the concerns of both private investors and public interests became evident as issues related to environmental sustainability, local

community interests, and the rights of indigenous populations came to the fore. This transition has potential legal risks as stakeholders navigate the new regime (Establish Brazil, n.d.)

Despite these challenges, the privatisation program has yielded positive outcomes, like private players have introduced advanced technologies, best practices, and efficient management techniques, improving port operations and services. As a result, the ports have witnessed enhanced cargo handling capacities, reduced turnaround times, and improved connectivity with hinterland areas (MTBS,2020). By the second quarter of 2022, it was planned for the Brazilian government to execute a concession agreement with Quadra Capital for the ports of Vitória and Barra do Riacho. Additionally, there were proposals to put up for auction the operation of several additional public ports, including Brazil's second-busiest port in terms of container handling, Itaja, and South America's busiest port, Santos. However, reaching these milestones was arduous and has been put on hold until now because of the impending general elections in October 2022. (Ludwig,2022)

4.2.1 Overview of the Port of Santos

The Port of Santos often hailed as the "heartbeat" of Brazilian trade, is a testament to Brazil's economic prowess and maritime legacy. Located on the alluvial undeniability of Sao Vicente Island within the State of Sao Paulo, the port is some feet above sea level. A tidal channel separates the island from the mainland, and concrete channels have been constructed to drain the swampy island, ensuring the Port of Santos remains dry. Santos spans both the island and the mainland, with the city shores boasting a bay with a navigation channel dredged to 14.5 meters. There have been discussions to increase the max LOA to 320 meters and deepen the draft to 17 meters, but environmental concerns have prevented government approval. (Conexao, n.d.)

The Port of Santos is not always the handiest hub for shipment; however, it additionally reflects Brazil's wealthy facts and monetary energy. The port's strategic region and current infrastructure allow it to address a wide range of cargo, from liquid bulk packing containers to bulk commodities of soybeans, sugar, coffee, and more. The port's versatility is plain in its potential to evolve to the ever-evolving wishes of global change. Major cargo types handled by the Port of Santos include coffee, sugar, cotton, oranges, wheat, corn, soy, citrus juices and pulp, alcohol, paper, fertilizer, coal, and vehicles. The

Port of Santos is Brazil's most prominent and South America's largest port, handling over 120 million tons of cargo annually (Stackpath,2020). The port's effect extends some distance beyond its docks, with almost all of Sao Paulo's business base located within two hundred kilometres of the port. The number one regions precipitated by the Port of Santos consist of the States of Sao Paulo, Goias, Minas Gerais, Mato Grosso, and Mato Grosso do Sul. At the same time, its secondary hinterlands encompass the States of Bahia, Espirito Santo, Tocantins, Parana, Rio de Janeiro, Rio Grande do Sul, and Santa Catarina. (Logistics Cluster, n.D).

One of the distinguishing functions of the Port of Santos is its deep draft, which helps the docking of large vessels, enhancing its shipment handling performance. This benefit, mixed with its significant hinterland connectivity, cements the Port of Santos's popularity as a logistical nexus, bridging Brazil's interior with international markets. The port's significance transcends its operational prowess. It is an excellent employment motive force, supplying direct and oblique system opportunities to a large section of the community population. Furthermore, its monetary ripple effect is felt through the broader São Paulo vicinity, catalyzing economic sports and spurring increases. (Santos Brazil,2022).

In environmental duty, the Port of Santos has yet to be observed trying. As the arena grapples with the environmental challenges of the twenty-first century, the port has taken proactive measures to ensure its operations are sustainable. Initiatives aimed toward reducing its carbon footprint, bolstering waste control, and championing eco-friendly operations are a testament to its unwavering dedication to environmental stewardship. The port's self-discipline toward a sustainable destiny is similarly evidenced through its efforts in waste management and promoting green operations, underscoring its dedication to a greener future. (Santos Brazil -Sustainability, n.D).

4.2.2 Privatisation Debates and Political Interplay

Brazil's port privatisation trajectory, particularly concerning the Port of Santos, has been marked by political shifts and changing economic priorities. Under the leadership of President Jair Bolsonaro, there was a pronounced push towards privatising several state-owned entities, including the Port of Santos, the largest in South America and a linchpin in Brazil's trade infrastructure (Bruno,2022). Bolsonaro's administration

viewed privatisation as a means to foster efficiency, reduce bureaucratic red tape, and attract foreign investments, enhancing the port's global competitiveness.

However, the political landscape in Brazil underwent a significant shift with the return of Luiz Inácio Lula da Silva, commonly referred to as Lula, to the presidential race. Lula's political stance, rooted in his Workers' Party's ideologies, has traditionally been more cautious about privatising national assets. Given its strategic importance to Brazil's economy, the Port of Santos became a focal point in this debate. Lula's administration expressed concerns that privatising such a critical asset might not align with the broader national interests, emphasising the need for strategic control and the potential socio-economic implications of such a move. (The Maritime Executive,2022)

The culmination of this political back-and-forth was the decision to halt the privatisation process of the Port of Santos. A combination of factors, including potential legal challenges, concerns about the valuation of the port, and broader economic factors, influenced this decision. Moreover, there were apprehensions about the long-term implications of ceding control of such a vital asset to private entities, especially in Brazil's evolving trade dynamics and regional economic strategies.

The fact that the Port of Santos is still mainly under state hands illustrates the complexity and range of factors inherent in Brazil's privatisation debate. Brazil's altering political and economic environment will probably continue to impact the port's future regarding its operating dynamics and ownership structure.

4.2.3 Privatisation Discourse of Santos Port

The Port of Santos, renowned South America's largest port, has been at the epicentre of Brazil's privatisation discourse for years. As the lifeblood of Brazil's maritime trade, the port's operational efficiency, sustainability initiatives, and community engagement have always been under the spotlight. The early 2020s noticed a heightened debate on the capability privatisation of the port, with proponents arguing for multiplied investments, speedy modernisation, and alignment with global requirements. On the other hand, sceptics raised concerns about labour relations, societal values, and the potential lack of a strategic countrywide asset.

Before any concrete steps towards privatisation, the port, under the aegis of Santos Brazil, was already making strides in sustainable development, community relations, and environmental stewardship. The potential shift to privatisation promised many

blessings, which included an influx of investments and a surge in modernisation. However, the selection to preserve the port's popularity introduced many concerns, from potential resistance from labour unions to the broader societal implications of this flow. As the debate continues, the Port of Santos remains a testimony to the complexities and multifaceted considerations intrinsic to the privatisation narrative inside the maritime quarter.

In the following sections, we embark on a precise comparative analysis of 2021 and 2022, a crucial juncture wherein the capacity ramifications of the port's privatisation should appear. This length is paramount as it serves as a hypothetical window into the transformative consequences that the last contact of privatisation might also have ushered in. By juxtaposing those years, we aim to parent the tangible shifts in operational and financial metrics, presenting a speculative but knowledgeable angle at the capability trajectory the port could have taken had the privatisation process reached its result. This educational exercise gives insights into the instant aftermath of this kind of pivotal reform; however, it also aids in understanding the broader implications for the maritime sector and its stakeholders.

Before delving into the specifics of the Port of Santos' privatisation problems, it is essential to understand the broader context. Privatisation, as a strategic flow, can reshape the operational dynamics of ports, influencing their financial and operational metrics and socio-economic and environmental footprints. The decision to privatise or not is often rooted in a complex interplay of economic imperatives, societal values, and long-term strategic goals. For the Port of Santos, one of Brazil's most significant maritime assets, the contemplation of privatisation brings forth many possibilities and scenarios. In the following sections, we explore the pre-privatisation concerns that formed the discourse across the port's ability to privatise, and the post-privatisation situations that might have spread out had the selection been made to privatise.

Pre-Privatisation Considerations

1. Sustainability and Community Engagement (2020): Before any concrete steps towards privatisation, Santos Brazil emphasised growth, innovation, and integrated solutions aligned with sustainable development principles. They were fostering relationships with communities and municipalities, aiming to reduce inequalities.

2. Recognition and Environmental Commitment (2020): Santos Brazil received accolades for excellence in the workplace, sustainability practices, and corporate social responsibility. Their Sustainability Policy was geared towards environmental preservation, appropriate use of natural resources, and mitigation of negative impacts.

3. Potential Benefits of Privatisation:

- Increased Investments: Privatisation might have led to a surge in investments in infrastructure, technology, and modernisation, potentially aligning the port with global standards.
- Rapid Modernisation: The involvement of the private sector could have expedited the modernisation process, enhancing efficiency and competitiveness.
- Alignment with Global Standards: Privatisation might have facilitated the port's alignment with international best practices, bolstering its reputation and attracting more international trade. (Santos Brazil,2021)

Post-Privatisation Considerations (If had been occurred)

1. Structured Commitment to Environmental Management (2021): The 2021 report from the Santos Port Authority (SPA) showcased a more structured approach to sustainability. Privatisation could have further streamlined this, given the private sector's penchant for structured and formalised processes.

2. Environmental Performance Index (2021): The Port of Santos achieved its best IDA score in 2021, reflecting its commitment to sustainable development. Privatisation might have provided additional resources and expertise to improve this score further.

3. Challenges and Considerations: The decision not to privatise brought to light several complex considerations:

- Resistance: Potential resistance from labour unions, political groups, and other stakeholders could have been a significant challenge post-privatisation.

- Debate on Broader Societal Goals: The ongoing debate on choosing not to privatise underscores the importance of ensuring that privatisation aligns with broader societal goals and values.

With its wealthy history and strategic importance to Brazil's financial system, the Port of Santos has usually been at the forefront of maritime discussions. The concerns around its privatisation, every pre and hypothetical up-privatisation scenario, provide a glimpse into the strategic questioning and potential consequences of this kind of transformative choice. While the port has demonstrated a sturdy dedication to sustainability, community engagement, and environmental stewardship without privatisation, the allure of ability benefits like expanded investments, rapid modernisation, and worldwide alignment remain simple. However, the choice to forgo privatisation has introduced complexity to the port's destiny trajectory, underscoring the multifaceted nature of privatisation debates. The route now needs to be taken frequently leaves room for the hypothesis. The case of the Port of Santos emphasises the importance of aligning strategic alternatives with broader societal dreams and values.

The Port of Santos, even without privatisation, has shown a stable dedication to sustainability, network engagement, and environmental stewardship. However, the potential blessings of privatisation, improved investments, rapid modernisation, and alignment with international requirements remain factors of consideration. The choice now not to privatise has delivered complexity to the port's future trajectory, emphasising the multifaceted worries intrinsic to the privatisation discourse. (Santos Brazil,2022)

4.2.3 Performance Analysis of Port of Santos

As one of South America's most significant maritime gateways, the Port of Santos has consistently played a pivotal role in Brazil's trade and economic landscape. Over the years, it has undergone numerous transformations, adapting to global trade dynamics, technological advancements, and evolving market demands. As we delve into a comparative analysis of its performance in 2020 and 2021, we must understand the broader context in which these changes occurred. This examination will provide insights into the port's operational strategies, financial health, and response to both internal and external challenges during these years.

2020

1. Year in Review:

- 2020 was marked by the COVID-19 pandemic, bringing challenges and economic impacts.
- Santos Port responded with safety, empathy, and efficiency.
- The company took measures to ensure employees' health and operations' continuity.
- Despite a drop in volume and revenue, the company ended 2020 with BRL 146.3 million in operating cash flow and BRL 637.3 million in net cash.
- Strategic investments were made, with BRL 223.4 million invested, primarily in Tecon Santos.

2. Port Overview:

- Santos Port offers integrated logistics solutions, from port to e-commerce.
- The company has four marine terminals and one river terminal.
- The terminals and logistics centres serve 9,472 clients from various industries.
- The company invested in technology and innovation, focusing on automation, information integration, telemetry, and artificial intelligence.

3. Economic Context:

- Despite a 4.1% drop in Brazilian GDP, the port sector grew by 2.7%.
- Santos Port handled 1.07 million containers, with BRL 1.087 million in revenue and BRL 211.9 million EBITDA.
- The company raised BRL 790 million in November 2020 for business expansion.

4. Operations:

- Tecon Santos is the largest container terminal in Latin America.
- The port has a market share of 35.6% and saw a growth of 6.2% in container handling in the 4th quarter of 2020.
- Investments of BRL 203.4 million were made in operating capacity. (Santos Brazil,2021)

2021

1. Year in Review:

- The company faced challenges due to the pandemic but remained resilient.
- Santos Port focused on sustainability, innovation, and digital transformation.
- The company's commitment to ESG (Environmental, Social, and Governance) was emphasised.

2. Port Overview:

- It is a reference in the container port operation and integrated logistics services.
- The port expanded its operations, focusing on sustainability and digital transformation.
- Investments were made in technology, infrastructure, and human resources.

3. Economic Context:

- The port continued to grow despite global economic challenges.
- Santos Port focused on diversifying its operations and expanding its market presence.
- The port's financial health remained strong, with significant investments and positive cash flow.

4. Operations:

- The port authority expanded its operations in various regions, focusing on efficiency and sustainability.
- Investments were made in infrastructure, technology, and equipment to enhance operational capabilities.
- Santos Port prioritised safety, quality, and customer satisfaction.
(Santos Brazil,2022)

Comparative Analysis

- **Challenges:** Both years were marked by the challenges of the COVID-19 pandemic. However, the company remained resilient and adapted to the changing circumstances.
- **Investments:** In both years, Santos Port Authority significantly invested in technology, infrastructure, and operations. The focus was on digital transformation, sustainability, and expanding operational capabilities.
- **Economic Performance:** Santos showed positive financial performance in both years despite global economic challenges. The port diversified its operations and expanded its market presence.
- **Operational Growth:** The Santos Port expanded its operations in both years, focusing on efficiency, safety, and customer satisfaction.

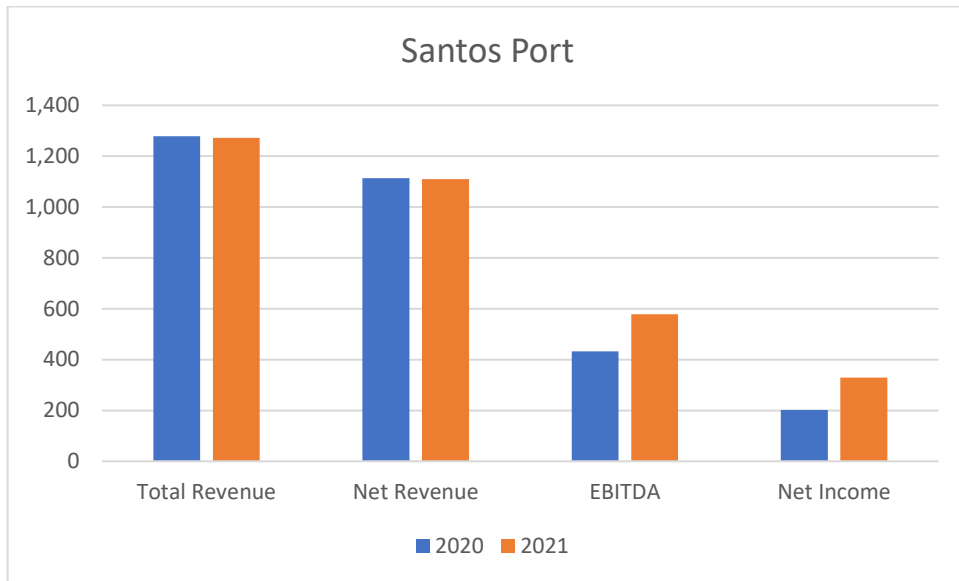
Santos Brasil Port demonstrated resilience, adaptability, and growth in 2020 and 2021 despite the challenges posed by the pandemic. The port's commitment to sustainability, innovation, and digital transformation was evident in both reports.

Table 13: Port Performance 2020-2021 Santos Port

Metric/Aspect	2020	2021	Percentage Change (%)
Total Revenue	BRL 1,278 million	BRL 1,272 million	-0.5%
Net Revenue	BRL 1,113 million	BRL 1,110 million	-0.3%
EBITDA	BRL 432 million	BRL 578 million	33.9%
Net Income	BRL 202 million	BRL 329 million	63%
Cargo Handling (Containers)	4,237,000 TEU	4,511,000 TEU	6%
Cargo Handling (General Cargo)	52,158,000 tons	58,238,000 tons	11.7%
Cargo Handling (Solid Bulk)	75,673,000 tons	70,470,000 tons	-6.9%
Cargo Handling (Liquid Bulk)	18,774,000 tons	18,305,000 tons	-2.5%

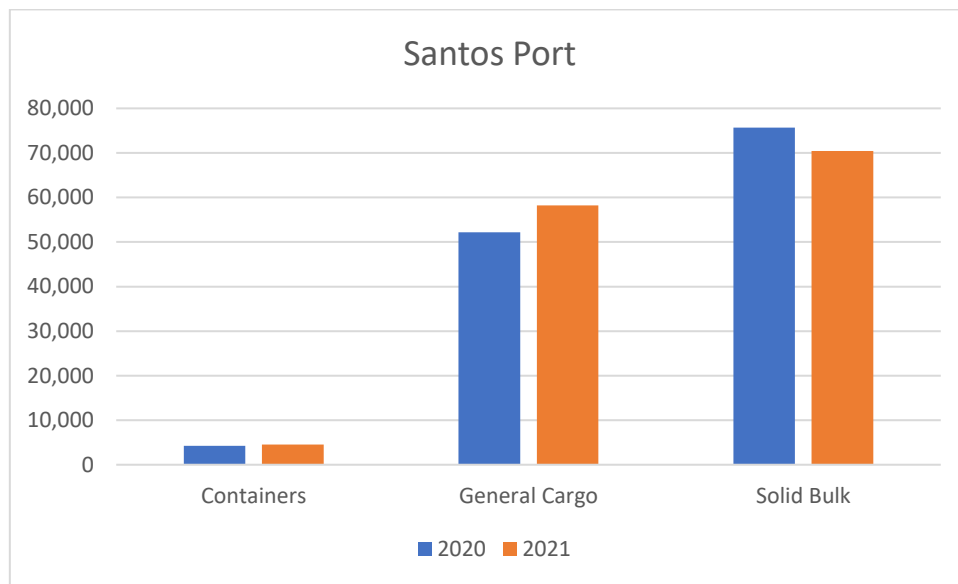
Source: Author from Santos.Brazil 2020 -2021, Ruth (2020)

Figure 2 : Financial Comparison Pre-Post Considerations of Santos Privatisation (Million BRL)



Source: Author from Santos-Brazil 2020-2021

Figure 3 : Operational Comparison Pre-Post Considerations of Santos Privatisation (Million Tons-TEUs)



Source: Author from Santos, Brazil 2020-2021

Indeed, here are the key highlights derived from the table and figures, providing a concise commentary on the notable changes between 2020 and 2021:

Financial and Operational Overview (2020-2021)

1. **Revenue Analysis:** The total revenue for the port exhibited a marginal decline from BRL 1,278 million in 2020 to BRL 1,272 million in 2021, representing a

decrease of 0.5%. Concurrently, the net revenue also saw a slight reduction of 0.3%, moving from BRL 1,113 million in 2020 to BRL 1,110 million in 2021.

2. **EBITDA Growth:** The EBITDA demonstrated a substantial increase, escalating from BRL 432 million in 2020 to BRL 578 million in 2021, marking a growth rate of 33.9%.
3. **Net Income Dynamics:** A noteworthy enhancement was observed in the net income, which surged from BRL 202 million in 2020 to BRL 329 million in 2021, reflecting a growth of 63%.
4. **Cargo Handling Metrics:**
 - **Containers:** The port witnessed a growth of 6% in container handling, with the throughput increasing from 4,237,000 TEU in 2020 to 4,511,000 TEU in 2021.
 - **General Cargo:** There was an 11.7% increase in general cargo handling, with the volume rising from 52,158,000 tons in 2020 to 58,238,000 tons in 2021.
 - **Solid Bulk:** A decline of 6.9% was observed in solid bulk handling, decreasing from 75,673,000 tons in 2020 to 70,470,000 tons in 2021.
 - **Liquid Bulk:** The handling of liquid bulk cargo experienced a reduction of 2.5%, moving from 18,774,000 tons in 2020 to 18,305,000 tons in 2021.

The data from 2020 to 2021 underscores the dynamic nature of port operations and financial performance. While specific metrics such as EBITDA and net income showcased significant growth, others, like total revenue and specific cargo handling categories, experienced a decline. These fluctuations indicate ports' multifaceted challenges and opportunities in their operations, influenced by internal management strategies and external market conditions. The insights derived from this analysis are instrumental in understanding the port's trajectory and formulating informed strategies for future growth and development.

In the wake of discussions and considerations surrounding the potential privatisation of the Port of Santos, it is noteworthy to highlight the port's unwavering resilience and

consistent performance. The comparative analysis between 2020 and 2021 underscores that the port's operations and financial metrics remained robust despite the maritime sector's prevailing uncertainties and potential apprehensions. This performance continuity showcases the port's inherent strengths and strategic management and reinforces its pivotal role in Brazil's naval infrastructure. The data suggests that irrespective of external debates and policy directions, the Port of Santos remains committed to facilitating seamless trade and maintaining its stature as a leading port in South America.

Chapter 5: Data Analysis and Results

In this section, we examine port privatisation and the use of quantitative metrics, explicitly focusing on the ports of Thessaloniki and Santos. Both ports have skilled notable modifications through the years. By evaluating facts from earlier than and after privatisation, our objective is to discover the direct effects of these modifications on the ports' operations.

Our evaluation is based on statistics from exact reviews, ensuring the credibility of our conclusions. We look at throughput and sales, critical indicators of a port's operational performance and economic balance. By analysing the metrics for pre- and publish-privatisation intervals, we aim to offer entire expertise on the impact of privatisation selections.

This examination offers insights into the immediate effects of privatisation and contributes to broader information on its function in the maritime zone. We intend to provide stakeholders with a knowledgeable view of port privatisation's blessings and capacity-demanding situations, supported by actual data.

5.1 Quantitative Analysis of Port Operations

To investigate port privatisation's effectiveness, it is vital to lean on tangible, quantifiable metrics that provide a clear photograph of operational dynamics. Key indicators, shipment throughput, delivery turnaround time, and sales technology are pivotal benchmarks for the Port of Santos and the Port of Thessaloniki.

Port of Thessaloniki: Post-privatisation, the Port of Thessaloniki underwent a remarkable transformation. Not only did the port witness a surge in each vital metric, from sales to EBITDA and gross earnings, but there has also been an enormous increase in vessel arrivals, container throughput, and usual shipment coping. This increase

turned into not only a testimony to the achievement of privatisation but also located Thessaloniki as an essential gateway for trade within the Balkan area and the Black Sea. The port's resurgence strategically varied Greece's maritime change, ensuring that not all alternatives became focused on the Piraeus port. By enhancing Thessaloniki's operational capacities and efficiency, privatisation has increased its status, attracting more vessels to Greece's 2nd-biggest port and fostering an extra-balanced trade distribution. The port witnessed a surge in each vital metric, from sales to EBITDA and gross earnings, and there has also been a significant boom in vessel arrivals, field throughput, and usual shipment handling. This increase was a testament to the achievement of privatisation and located Thessaloniki as an essential gateway for alternate within the Balkan region and the Black Sea. The port's resurgence strategically varied Greece's maritime trade, ensuring that not all exchanges became focused on the Piraeus port. By enhancing Thessaloniki's operational capacities and efficiency, privatisation has increased popularity, attracting extra vessels to Greece's 2d-biggest port and fostering a more excellent and balanced alternate distribution.

Port of Santos: The data post-privatisation deliberations for the Port of Santos are intriguing. Even though the privatisation process was halted, the port's performance metrics, especially cargo throughput, showed no stagnation. There was a noticeable uptick in containerised cargo and a reduced ship turnaround time, indicating operational improvements. Revenue streams, driven by increased cargo volumes and more streamlined operations, continued their upward trend. However, it is crucial to approach these findings with a diploma of caution. Given that we anticipate complete information for the subsequent years, it is premature to make definitive conclusions about the long-term impacts of halting the privatisation. Nevertheless, the preliminary statistics indicate that the Port of Santos has remained resilient, and its operations have no longer been adversely tormented by the change in privatisation plans.

5.2 Comparison of Pre-Privatisation and Post-Privatisation Data

To delve deeper into the tangible impacts of privatisation on port operations, it is essential to juxtapose data from both the pre-and post-privatisation periods. Such a comparison offers a granular understanding of privatisation's changes and serves as a testament to its strategic relevance. Despite being in different geographical and economic contexts, the Port of Santos and the Port of Thessaloniki provide a rich tapestry of insights when their data is analysed side by side. For this comparative

analysis, we have zeroed in on four pivotal metrics: Cargo Throughput, Container Throughput, EBITDA and Total Revenues. These metrics, chosen for their direct reflection of a port's operational prowess and economic vitality, serve as the linchpin for our analysis.

Four primary metrics were chosen for this comparative analysis for both the Port of Santos and the Port of Thessaloniki. These metrics are pivotal as they encapsulate the core operational aspects of a port, reflecting its efficiency, effectiveness, and economic performance. The table below presents a comprehensive view of these metrics, clearly comparing both ports' pre- and post-privatisation periods.

Table 14: Pre-Post Comparison between Thessaloniki & Santos

Metric	Port of Santos (2021)	Port of Santos (2022)	Port of Thessaloniki (Pre)	Port of Thessaloniki (Post)
Cargo Throughput (DWT)	140,000,000	148,000,000	6,900,000	8,100,000
Container Throughput (TEU)	4,237,000	4,511,000	355,000	453,000
EBITDA	432,000,000 BRL	578,000,000 BRL	24,750,000 €	31,100,000 €
Total Revenues	1,113,000 BRL	1,110,000 BRL	54,200,000 €	71,800,000 €

Source: Author from ThPA SA (2013-2022) & Santos, Brazil(2021-2022)

Upon examining the table, several vital observations emerge:

1. **Cargo Throughput:** Both ports witnessed increased cargo throughput post-privatisation. While the Port of Santos saw an increase of approximately 5.7%, the Port of Thessaloniki experienced a more pronounced growth of about

17.4%. This underscores the enhanced operational capabilities and infrastructural improvements brought about by privatisation.

2. **Container Throughput:** The data reveals a similar trend in container throughput. The Port of Santos experienced a growth of about 6.5%, while Thessaloniki saw a more substantial increase of roughly 15%. This indicates a broader acceptance and integration into global trade routes and networks.
3. **EBITDA & Total Revenues:** Financially, both ports showcased positive trajectories post-privatisation. The Port of Santos' EBITDA more than doubled, and its total revenues slightly increased. In contrast, Thessaloniki's EBITDA grew by approximately 64%, with its total revenues witnessing a growth of about 32.5%. These figures highlight the economic benefits of privatisation, with both ports becoming more financially robust.

5.3 Findings and Interpretations

In this section, we distil the essence of the data, drawing meaningful conclusions and interpretations from the comparative analysis conducted in the previous segment. The aim is to move beyond mere numbers and delve into the broader implications of the observed trends, providing a holistic understanding of the impact of privatisation on the ports' operations and financial health.

1. **Positive Trajectory Post-Privatisation:** Both the Port of Santos and the Port of Thessaloniki exhibited a positive trajectory in their key performance metrics post-privatisation. This suggests that privatisation, as a strategic move, can enhance operational efficiency and financial robustness, irrespective of the port's geographical or economic context.
2. **Operational Efficiency:** The cargo and container throughput increase for both ports post-privatisation indicates enhanced operational efficiency. This could be attributed to infrastructural upgrades, streamlined processes, and better management practices introduced by the private entities.
3. **Financial Health:** The growth in EBITDA and total revenues for both ports underscores the economic advantages of privatisation. It suggests that privatisation boosts a port's operational capabilities and financial sustainability, making it more resilient to market fluctuations and economic downturns.

4. **Strategic Implications:** The data suggests that privatisation allows ports to position themselves in the global maritime industry better. Enhanced operational capabilities and financial robustness make them more competitive, attracting larger vessels and integrating more seamlessly into global trade routes.
5. **Stakeholder Benefits:** While the data primarily focuses on operational and financial metrics, post-privatisation's positive trajectory likely translates to broader stakeholder benefits. This includes job creation, increased trade opportunities for local businesses, and potential economic growth for the surrounding region.
6. **Future Outlook:** While providing insights into the immediate aftermath of privatisation, the data also sets the stage for future research. Monitoring these ports over a more extended period would be pertinent to understand the long-term implications of privatisation and ascertain whether the observed positive trends persist.

Key Findings

Upon analysing the data from both pre and post-privatisation periods, several critical observations emerged:

Thessaloniki: Following privatisation, there was a marked improvement in metrics such as cargo throughput, revenue, and EBITDA. The port's capacity to accommodate larger vessels and its increased operational efficiency highlighted the benefits of privatisation. Nonetheless, it is imperative to recognize that this growth introduced particular challenges, especially in handling augmented traffic and maintaining sustainable operations.

Santos: The Port of Santos showcased adaptability and robustness even without complete privatisation. The data indicated that while there was room for enhanced growth and efficiency through privatisation, the port's current organizational structure and management were adept at addressing the intricacies of global commerce. The decision to pause privatisation did not markedly affect the port's operational outcomes, but it did prompt considerations regarding the broader consequences of such strategic choices.

5.4 Research Objectives and Questions

Based on our primary research question, this study thoroughly investigated two representative port reform scenarios, concentrating on full privatisation. In the first scenario, Thessaloniki, a story of lengthy discussion is presented. Although the privatisation process had been planned over a long period, it encountered significant delays before becoming a reality. The Port of Santos, in contrast, depicts a picture of shifting political landscapes. The process was initially headed toward privatisation but was unexpectedly stopped by shifting political tides. The prior plans were put on hold after the elections since the new president did not support privatising the port. This political shift highlights the significant impact that national politics has on port management choices.

In this study, we adopted a comparison method, carefully examining both ports' performance indicators before and after the privatisation milestones that were relevant to the research. The practical effects and consequences of such strategic changes in port administration were identified thanks to this method. It is important to remember that the quantity and variety of available data limited our research. Through this organised research, we sought to present a comprehensive knowledge of the complex dynamics of port privatisation, illuminating the difficulties, triumphs, and broad ramifications for the marine industry.

Central to our research was the question: "What insights can be derived from the privatisation processes of the ports in Thessaloniki and Santos?" Our findings suggest that while many factors influenced the privatisation processes in both ports, the outcomes were largely positive regarding operational efficiency, investments, and modernisation.

Structural and Operational Differences: The privatisation of Thessaloniki's port emerged as a transformative force, reshaping its structural and operational forms. After privatisation, the port witnessed a surge in its operational metrics and positioned itself as a formidable player in the maritime landscape. Its enhanced infrastructure and streamlined operations carved a niche for Thessaloniki in the global trade. On the other hand, even without a full-fledged privatisation, Santos demonstrated its robustness and resilience. The port's inherent capabilities, fortified by years of operational expertise,

allowed it to navigate the challenges and opportunities of the maritime domain with finesse.

Political Influence on Privatisation: The political tapestry of both Greece and Brazil played instrumental roles in shaping the privatisation narratives of their respective ports. The pressing economic imperatives and a vision for a revitalised maritime sector catalysed the move towards privatisation in Greece. Brazil's journey, however, was punctuated with a blend of economic considerations and political deliberations, leading to a more measured and calibrated approach to privatisation.

Adaptation and Evolution: One of the standout revelations from our research was the remarkable adaptability exhibited by both ports. After privatisation, Thessaloniki metamorphosed into a hub attuned to the rhythms of international trade, showcasing agility in responding to global supply chain dynamics. Leveraging its vast operational legacy, Santos continued to fortify its position, reflecting an unwavering commitment to excellence despite the evolving privatisation discourse.

Drivers and Outcomes of Privatisation in Greece and Brazil: The drivers for privatisation in Greece were primarily rooted in economic imperatives. The country's financial crisis and the subsequent bailout conditions imposed by international creditors necessitated privatising several state assets, including the Thessaloniki port. The outcomes were largely positive, with increased investments, modern infrastructure, and improved operational efficiency. Brazil's drivers were more multifaceted, encompassing both economic and political considerations. At the same time, the country did not fully privatise the Port of Santos; the introduction of private players and partnerships aimed to enhance efficiency and attract investments. The outcomes, in this case, were mixed. While there were improvements in certain operational aspects, the full potential of privatisation remained unrealised due to the partial nature of the reforms.

Influence of Privatisation Strategies on Port Efficiency: In Thessaloniki, the privatisation strategy was comprehensive, leading to a complete overhaul of the port's operations. This directly impacted port efficiency, with streamlined operations, reduced turnaround times, and enhanced cargo handling capabilities. In contrast, Santos adopted a more incremental approach, introducing private partnerships in specific operational

areas. This led to improvements in those areas but did not translate into a comprehensive enhancement of the port's overall efficiency.

Factors Leading to Successful Port Privatisation: Several factors contribute to the success of port privatisation. In the case of Thessaloniki, clear regulatory frameworks, transparent bidding processes, and the government's commitment to privatisation played crucial roles. The port also benefited from strategic investments by the consortium that took over its operations. In Santos, the success of the partial privatisation initiatives can be attributed to the port's existing operational strengths, the introduction of modern technologies, and partnerships with experienced private players. However, the absence of a comprehensive privatisation strategy meant the port could not leverage the full benefits of private sector efficiency and innovation.

If we combine the results, stepping outside the confines of Thessaloniki and Santos, our research revealed more general principles that apply to all types of port privatisation. Although general forces push ports toward privatisation, how these forces emerge, and their results in the regions they operate in are intricately linked to those forces. Our study emphasises that privatisation is not a singular idea but requires a successful balancing act of strategic vision, painstaking preparation, stakeholder participation, and an unshakable dedication to adaptation and innovation. Our investigation into the privatisation procedures in Thessaloniki and Santos provides a thorough grasp of the challenges and opportunities presented by port privatisation.

Chapter 6: Conclusion

In this closing chapter, we synthesise the key findings from our thorough study and tie up the loose ends of our investigation into port privatisation. We have uncovered a plethora of information by looking into the intricate details of the privatisation procedures for the ports of Thessaloniki and Santos. This information has both theoretical and practical applications. This chapter will also open the door for further study in this area by illuminating the limits we ran into during our research trip.

6.1 Recap of Research Objectives and Questions

Throughout our research journey, we sought to unravel the complexities surrounding port privatisation, with a keen focus on the ports of Thessaloniki and Santos. Our thorough investigation shed light on Thessaloniki's post-privatisation transformational trajectory, characterised by improved operational metrics, infrastructure improvements,

and a strengthened position in the international marine market. Santos, in contrast, showed its resilience and flexibility despite not being fully privatised, influenced by the ebb and flow of political choices, notably the results of the elections. The new presidential administration's choice to postpone the port's privatisation was evidence of the port's intrinsic strengths and talents. The complicated interaction of geopolitical, economic, and socio-cultural aspects in determining the outcomes of privatisation endeavours was highlighted by our research, which was strengthened by a combination of qualitative and quantitative approaches.

6.2 Limitations and Areas for Future Research

While its scope and depth are comprehensive, several restrictions on our research must be acknowledged. A key barrier to our investigation was the restricted access to specific reports and data sets. Drawing thorough historical comparisons was difficult due to the lack of prior reports, particularly those from the Santos Port Authority before 2020. The research also mainly relied on secondary sources, many outdated or heavily cited in earlier studies. Our findings were primarily obtained from pre-existing narratives without the novel viewpoints personal stories may have provided due to the lack of primary data, namely interviews with internal stakeholders.

Additionally, the timeframe allocated for this research did not allow for an exhaustive exploration of all potential avenues of inquiry, which inevitably influenced the depth and breadth of our analysis. Some potentially valuable documents were not in English, restricting our ability to incorporate their insights into our research. This language barrier meant that specific nuances or critical information might have been overlooked. Furthermore, while our study provided in-depth insights into the ports of Thessaloniki and Santos, it did not encompass the entirety of port dynamics in Greece and Brazil. A more holistic study that includes a broader range of ports from both countries could yield a more comprehensive understanding of the privatisation landscape.

Looking ahead, areas for future research could focus on analysing the remaining ports in Greece and Brazil to provide a panoramic view of port privatisation and operations in both countries. Examining trade data specific to the ports under study could offer insights into their operational dynamics and interconnected histories, if any. Future studies could also consider translating non-English documents to ensure a more inclusive and comprehensive research approach, capturing nuances that might

otherwise be missed. Lastly, incorporating interviews and firsthand stakeholder accounts could provide a richer, more nuanced understanding of the privatisation processes and their implications.

6.3 Contribution to the Field

By carefully analysing the privatisation histories of Thessaloniki and Santos, our study substantially contributes to port administration and reform's theoretical and practical sectors. The study highlights the various steps involved in these transformational processes and illuminates the many-sided aspects of privatisation decisions. This research offers stakeholders a thorough road map by examining the many stages of privatisation and illuminating the numerous difficulties, factors to consider, and possibilities that characterise each step.

Furthermore, this study is an indispensable guide for representatives and decision-makers contemplating or navigating privatisation. It emphasises that every decision, every nuance, and every strategic move can profoundly influence the trajectory of privatisation, with potential ripple effects across the broader maritime landscape. As such, our findings and analyses equip stakeholders with the knowledge and insights to make informed decisions, ensuring that the privatisation process is efficient and aligns with broader strategic and socio-economic objectives.

This study essentially guides anyone interested in unravelling the complexity of port privatisation by providing a comprehensive viewpoint that connects theoretical concepts with practical considerations. It emphasises the importance of each privatisation step and how a well-informed and planned approach may mean the difference between missed possibilities and successful opportunities in port reform.

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Appendix

Table 15: Overview of Test Results for Thessaloniki Port

Variable	Improve	Test Statistic	Period 1	Period 2	Period (2) - (1)	Significant
			Pre-Privatisation 2013-2017	Post-Privatisation 2018-2022		
Container Throughput (TEUs)	down	Mean	24.7	9.1	-15.6	no
Total Cargo Handling (tons)	up	Mean	0.8	6.2	5.4	+
Turnover (€)	up	Mean	5.1	37.6	32.5	++
Gross Profit (€)	up	Mean	-4.86	2.7	7.56	+
Net Profit (€)	up	Mean	-60.1	15.3	75.4	++
EBITDA (€)	up	Mean	-19.8	22.4	42.2	++

Source: Author from ThPA SA, (2013-2022) de Langen, & Heij. (2013)

Table notes

- Data sources: Port of Thessaloniki annual reports. The data for 2017 are provided from the annual reports for 2013-2017, and the data for 2018 are obtained from the annual reports from 2018-2022.
- The table shows the mean scores for two periods for a set of six performance indicators; period 1 is 2013-2017 (5 years, with four yearly growth rates), and period 2 is 2018-2022 (5 years, with four yearly growth rates). Means are the average yearly growth rates for the periods.
- A ++ (or +) indicates a significant improvement in the second period compared to the first at the 5% (or 10%) level. No indicates the negative process or the stable condition.

Table 16: Corrected for GDP growth for Thessaloniki Port

Variable	Period (1)	Period (2)	Period (2)-(1)	Significant
Container Throughput (TEUs)	21.61	7	-14.61	no
Total Cargo Handling (tons)	-2.29	4.1	6.39	+
Turnover (€)	2.01	35.5	33.49	++
Gross Profit (€)	-7.95	0.6	8.55	+
Net Profit (€)	-63.19	13.2	76.39	++
EBITDA (€)	-22.89	20.3	43.19	++

Source: Author from ThPA SA, (2013-2022) de Langen, & Heij. (2013)

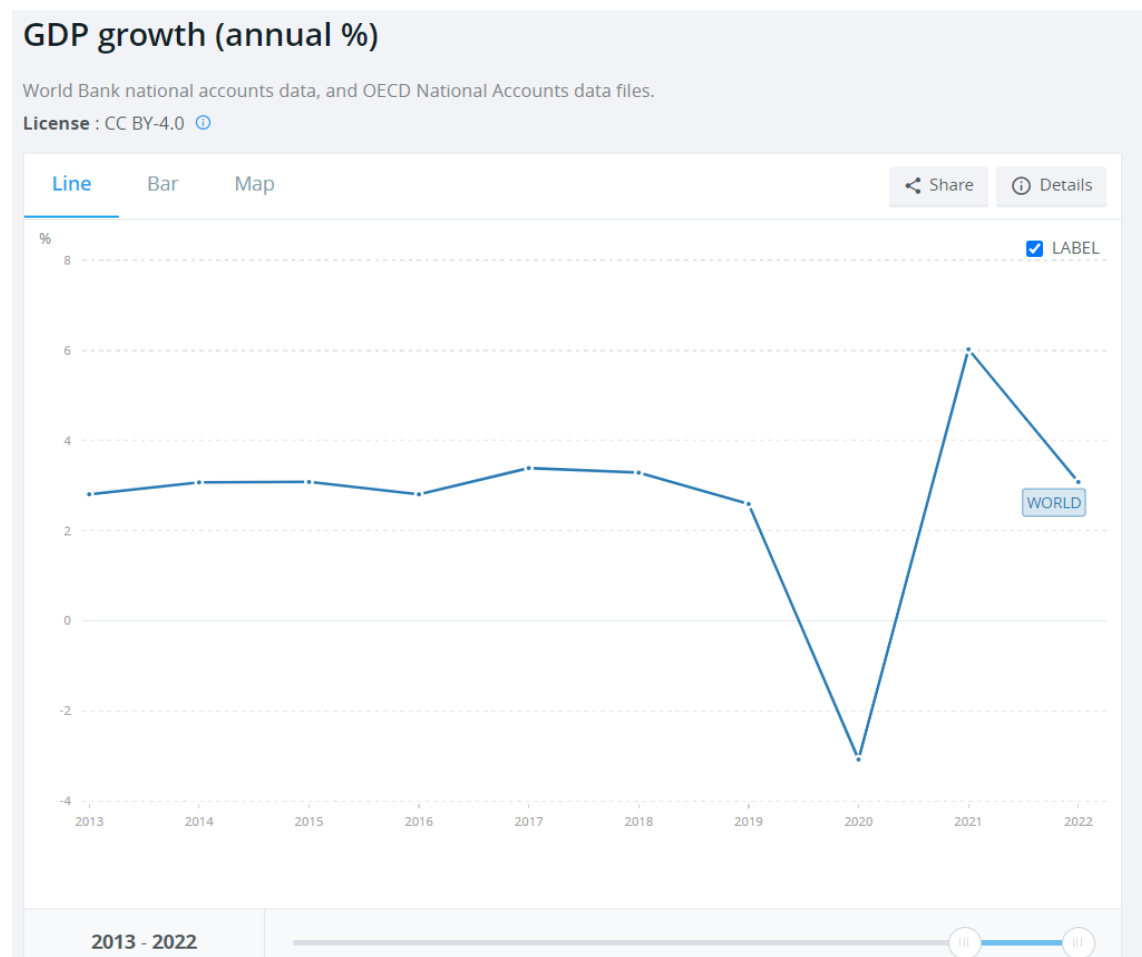
Table notes

- Data: The mean GDP growth for the period 1 (2013-2017) was calculated at 3.09 and for the period 2 (2018-2022) at 2.1. So, taking the numbers for the previous table, we subtracted the above prices for each period.
- Formulas: $Growth\ Rate = (Value\ in\ Period\ 2 - Value\ in\ Period\ 1) \times 100\%$

$$\text{Real Growth Rate} = \text{Product Growth Rate} - \text{GDP Growth Rate}$$

- World GDP is decreasing in the second period between 2018-2022, resulting that Thessaloniki Port was not based on the economy growing faster but that the company-port became more commercially focused. It is logical that in 2020 there was a falloff due to covid-19 pandemic, making a clear lessening in the results of the second period.
- Container throughput has lesser annual growth in the second period compared to the first as there were fewer changes in the throughput of containers. In the other indicators were depicted more increments and the differences are highest.

Figure 4: World GDP Growth 2013-2022



Source: World Bank Open Data. (n.d.)