Democracy versus Authoritarian: A Comparative Study on the Political Impact on ICT Development in South Korea and Singapore

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List of Acronyms

A*STAR	Agency for Science, Technology and Research
CSCP	Civil Service Computerization Program
EDB	Economic Development Board
EPB	Economic Planning Board
GDRI	Government Development Research Institute
GLCs	Government-Linked Companies
IMF	International Moneytary Fund
ITM	the Industrial Transformation Map
IRAS	Inland Revenue Authority of Singapore
MITI	Ministry of International Trade and Industry
MNCs	Multi-National Corporations
NPM	New Public Management
NRF	National Research Foundation
PAP	People Action Party (government)
R&D	Research and Development

Abstract

This research paper focuses on the state-market relationship and examines the political conditions important for economic development and innovation in the context of ICT development in South Korea and Singapore. Both Asian countries are models for successful economic development in the late 20th century, so-called the 'Asian Miracle', and the strong and autocratic leadership of the states supported this achievement. In the 1987 of the June democratic struggle, South Korea shifted to democracy, whereas Singapore has not undergone a similar political change. Although both states have followed different political paths since then, they have both maintained high levels of global economic development, particularly in the ICT sector. This paper considers how this happened. The central question to explore here is why different political paths can still lead to the similar economic outcome in the ICT sector. This study focuses on the political intervention behind high ICT development and discovers that despite their different political trajectory of regimes and freedom degree, the two states share common features of their political systems and state interventions. Both countries shared a combination of embedded autonomy and an entrepreneurial state in ICT development, which stresses the autonomy and leading role of the state while emphasizing the balance with the market. This case study on two contrasting political paths highlights the political conditions that promote growth and innovation, as well as the role and necessary capacity of the state in this process. The key political factor in economic growth is not the political system or the degree of freedom, rather the state's ability to play a leading role in growth strategies, to design and implement strategies that consider the long-term interests of the whole, and to strike a balance between market intervention and non-intervention. Both Korea and Singapore have demonstrated in their ICT strategies that they are '*Entrepreneurial States with Embedded Autonomy'* possessing these capacities.

Keywords

South Korea, Singapore, Economic Growth, Innovation, Information and Communication Technologies (ICT), State Capacity, State-Business Relationship

Relevance to Development Studies

It is relevant for development studies in that this study explores the role of the state and political conditions in economic development. The study identifies the mechanisms of political intervention behind ICT development, argues for common features of political intervention in different political regimes and clarifies the role of the state in national economic growth and innovation. The study provides interesting insights and references in policy formation and implementation in other growth policies. It also deepens understanding of the role of the state in promoting economic growth and innovation, and the challenges of how to optimise its interaction with the market. The study reconsiders the state-market relationship in development studies and underlines the importance of political requirements in economic development, providing political capacity and policy implications for other states, particularly through best practice in the ICT sector. This is expected to contribute to the development of economic development strategies.

Chapter 1 Introduction

This initial chapter provides a comprehensive overview of the study's main comportments such as research backgrounds, justification for conducting the research, and research question and objectives that guide the study.

1.1 Research Background

The question of whether democracy promotes economic growth or whether economic growth brings democracy has long interested researchers in political economy. Despite extensive research, there is no consensus on the mutual mechanism between political regimes and economic development. Several East Asian countries achieved unprecedented economic growth from 1960-1990s, which commonly referred to the 'Asian Miracle'. This phenomenon stimulated debate on the relationship between politics and economic development and contributed to theory development of traditional theories. One important outcome of this discourse was the identification of a political model, 'developmental state,' which is considered as one of the factors behind the success (Leftwich, 2000; Yildiz, 2020). Governments in East Asia, such as Hong Kong, Indonesia, Japan, South Korea (hereafter referred to as Korea), Malaysia, Singapore, Taiwan and Thailand, played an important role in shaping the country's economic system and promoting economic growth, with largely responsible for driving economic development (Stiglitz, 1996). These governments prioritized economic development and adopted strategies such as export-oriented industrialization, which contributed to exceptional economic growth in the region, particularly as seen in the 'Asian tigers' (Wu, 2017). Although these countries diverged from Western-style evectional democracy (Youngs, 2004)), there were still able to lift a huge population out of poverty. However, the authoritarian regimes that underpinned the 'Asian Miracle' did not last long: in the 1980s and 1990s, most of those countries switched to democracy.

Korea is a prominent example. Under authoritarian rule, Korea achieved rapid and significant economic development. However, it transitioned to democracy after the June Democratic Struggle in 1987. Interestingly, even after this political transition, Korea has maintained its position as a global economic powerhouse, particularly in the ICT sector. Over the past few decades, Korea has not only maintained rapid economic growth but has also dramatically reduced poverty[1]. Key sectors that have driven this success include manufacturing, the internet, technology and, more recently, the entertainment industry (KOSTAT, 2024). Korea's economic strength lies in its electronics, automotive, IT, financial and, more recently, entertainment sectors, which have gained global recognition (ibid.).

In contrast, Singapore has not experienced a similar political transition. Since independence, Singapore has achieved rapid and high economic development through state-led policies by the People's Action Party (PAP), while PAP rule continues to restrict political criticism and democratic movements (Hisasue, 2023; Rodan, 2006). Despite gradual and irreversible moves towards democratization in recent years due to pressure from politically

[1] from 1980 to 2023, Korea's real GDP growth rate averaged 5.7% per year (World Bank, 2024)

conscious voters, the PAP has maintained its dominant position(ibid.). Singapore's political structure is that of a republic with a formal separation of powers, but the hegemonic rule of the PAP remains prevalent (ibid.). Economically, Singapore continues to perform better than most other countries in the region. As in Korea, Singapore excels in the ICT sector and is recognized globally for its leadership in digital infrastructure, technological innovation and cyber security (Wong, 1998). Although its economy is smaller than that of Korea, Singapore's economic presence on the global stage remains significant and should not be underestimated.

The key observation here is that the two countries have achieved heterogeneous but similar level of economic outcomes in the ICT sector despite their different political trajectories. This interesting point about different political factors leading to similar economic outcomes is the core and starting point of this research.

1.2 Research Question and Objectives

The role of politics in economic development has long been one of the central debates in development studies. However, since the 1980s, Korea and Singapore have achieved remarkable success in the ICT industry, despite their different political regimes. This study focuses on this interesting phenomenon and sets the main research question as to why different political paths lead to heterogeneous but similar economic outcomes in the ICT sector. In order to discover this, the study deeply analyzes the state intervention and clarify how political intervention takes place under different political regimes and whether there are differences in the way political intervention impacts on the ICT industry. In turn, it aims to understand the political factors behind high levels of development by exploring how their policies enable high and long-term economic development. The objective of this research is to identify the political conditions and the role of the state in promoting growth and innovation. To achieve this, case studies and comparative political economic analysis will be conducted, focusing on industrial policy as a government intervention in the ICT sector, a key sector common to both countries, from the 1980s to the present (2023).

1.3 Significance of this study

The study is justified in that it challenges conventional understandings of the relationship between politics and economic development and provides insights into the role of the state in development, particularly economic development. It also seeks to understand the complex relationships between the political system, state intervention and economic growth, and encourages further discussion on how the relationship between the state and business can be recalibrated. The study is also important in terms of providing a deeper understanding of the factors and mechanisms of success, as well as important implication for policy formulation and growth strategy.

The purpose of this study is to identify the commonalities and differences in political factors in economic development by comparing Korea and Singapore, that have achieved high economic growth under different political pathways and characteristics. This would

highlight the role of the state in economic development. In general, this study addresses complex issues in the field of political economy by utilising the unique experiences of Korea and Singapore to contribute to an understanding of the diverse paths to economic development and the role of state intervention. Therefore, this study not only deepens our understanding of the role of the state in the complex political economy dynamics underlying successful economic development strategies, but also provides important insights into policy implementation.

Various studies have been conducted on the relationship between politics and economic growth, but no conclusions have been reached. Political instability is generally considered to have a negative impact on economic growth, but views differ on whether democracy promotes growth (Aisen et al., 2011, and ESID, 2012). The importance of institutions and policy choices is acknowledged, but the degree of their specific impact and their optimal form remain debated (Aisen et al, 2011). The political factors affecting economic growth are complex and it remains difficult to generalise (ESID, 2012, Przeworski and Limongi, 1993). Overall, past research suggests that the relationship between politics and economic development is multifaceted and that there is no simple and universal pattern. Therefore, this comparative study of the political economy of Korea and Singapore would provide one powerful insight in terms of identifying the political characteristics and government behaviours that enable long-term, high economic development.

Chapter 2 Literature Review

This chapter reviews and analyses the relevant literature in development studies and political economy and identifies the analytical frameworks needed to identify research questions. To facilitate a comprehensive understanding, it also reviews the historical literature that analyses what makes economic growth possible and reviews how Korean and Singaporean interventions in the era of the development state have shaped economic outcomes.

2.1 Theoretical Evolution

The dynamic interplay between politics and economic growth has long been a subject of intense academic scrutiny, with scholars from a variety of disciplines attempting to unravel the complex web of factors that shape the economic trajectories of states. Theories and frameworks of politics and economic development have been able to evolve over a long history, and different perspectives and approaches have been put forward. However, the relationship is complex and how specific political regimes and policies affect economic development is still under debate.

The birth of ideas on politics and economic development dates back to 18th century economic liberalism. In his The Wealth of Nations (1776), Adam Smith advocated free-market principles, in which free markets and the allocation of resources by the invisible hand promote economic growth. This theory emphasises small government and minimal government political intervention in markets, and argues that free trade and competition maximise economic growth. However, after the great depression of 1929, large-scale public investment and fiscal stimulus by governments were recommended to cope with the economic recession. Keynes, in his The General Theory of Employment, Interest and Money (1936), argued that governments needed to actively intervene in the economy to solve problems, and this perception was expanded. In the Theory of Modernisation, Walt Rostow (1960) presented the view that all countries modernise through the same stages of economic development, and advocated democracy as the natural consequences of economic growth, with political modernisation, or democratisation, occurring alongside economic growth. However, this theory did not fit the reality of developing countries and was criticised as being Western-centric, which led to the emergence of dependency theory. Andre Gunder Frank (1967) and others pointed out that developing countries were economically dependent on the developed countries, preventing them from developing on their own. Developing countries needed state-led economic policies and protectionism to counter these, which influenced the policies of Latin American governments to promote import-substitution industrialisation and state-led economic development. Meanwhile, around the 1980s, Milton Friedman (1962) and Friedrich Hayek (19944) developed a neoliberal economic approach, in which the role of government is reduced, and the private sector and market competition promote economic development. The emergence of developmental state model, reflected by the East Asian countries' rapid growth under authoritarian regimes of government from the mid to late 20th century also drew attention. Government-led industrial policies, export-oriented growth strategies and strong controls are thought to have contributed to economic development despite the

absence or limited present of democracy in countries such as Japan, Korea, Singapore, Hong-Kong and Taiwan. The success of East Asia has led to a shift towards denying the inevitable link between democracy and economic growth. Peter Evans' concept of 'Embedded Autonomy' offers an analysis of how the state's autonomy and close cooperation with the industries contributed to economic development. Subsequently, institutionalism and governance theory emerged, which states that the quality and governance institution affect economic development. Darren Acemoglu and James Robinson's Why Nations Fail (2012) claims that the quality of inclusive political and economic institutions supports long-term economic development.

Thus, theories of politics and economic development have evolved in response to the challenges and circumstances of different periods. The relationship between politics and economic development has also become more multifaced due to the success of East Asia's economic development. However, while various studies have examined the relationship between politics and economic growth, no consistent conclusions have been made on the political characteristics driving economic growth. :Przeworski and Limongi (1993) argue that no clear conclusion can be drawn as to whether democracy or autocracy promotes economic growth: Acemoglu et al. (2019) suggest that democratization may promote economic growth in the long run, but the effect depends on the contexts: Rodrik (2000) argues that good institutions are important for economic growth, but the optimal type of institution varies from country to country; Alesina and Perotti (1994) show that political instability can impede economic growth, but the strength of this relationship depends on a variety of factors. These studies presents the relation between politics and economic growth is complex and difficult to generalized. Overall, the mechanism of what political elements causes growth is multifaced and complex, and the role of state in economic growth remains unclear.

2.2 Developmental State in Asia

The rapid economic growth in East Asia attracted the attention of various researchers, who actively explored the underlying factors. The factors behind 'Miracle', were identified as multifaced, including greater trade openness, high saving rates, a strong commitment to education and effective macroeconomic policies (Bloom & Finlay, 2009). Particularly widely understood, however, is the concept of the "developmental state", which emerged as a framework to explain rapid economic growth in East Asia with strong state intervention and strategic economic planning to its innovations. The concept is characterised by strategic industrial policy, targeted investment in education and technology, and close collaboration between the state and the private sector (Evans, 1995; Leftwich, 1995; Johnson; 1982), with Japan, Korea, Singapore and Taiwan as prime examples. Johnson (1982) and Amsden (1989) emphasise the importance of 'winner- picking' industrial policies that foster specific industries and drive economic growth. Leftwich (1995) successfully organises the six main components of a developmental state as follows:

1. Strong elite commitment to economic growth

2. State's 'relative autonomy' from certain interest groups and factions; and
3. Strong and competent bureaucracy to implement growth policies.
4. Weak and subservient civil society.
5. Effective management of non-state economic interests.
6. Oppression, legitimacy and performance.

Johnson (1982) was one of the first to articulate the developmental state concept, highlighting the Japanese bureaucratic interventions that facilitated rapid industrialisation. He argued that the Ministry of International Trade and Industry (MITI) played a key role in guiding economic policy in line with the national interest. Evans (1995) then proposed the concept of 'embedded autonomy'. This explains how those states effectively coordinated industrial development while retaining their independence from economic elites. This framework emphasises the importance of a competent bureaucracy that can effectively enforce development policies. In addition, Wade (1990) explained how proactive government policies led to successful economic outcomes by examining the role of state intervention in Korea and Taiwan. He showed that active state intervention was successful in fostering domestic industry and defending the economy against external shocks, supporting the effectiveness of the developmental state.

However, as these economies matured, several factors led to the decline and transformation of the developmental state model. One of these was the 1997-1998 Asian financial crisis, which triggered a reassessment of the effectiveness of state-led development strategies; Beeson (2004) argues that previously celebrated "strong" states were now critiqued as canters of crony capitalism, undermining their legitimacy and efficacy. He also points out that this was a turning point in which the legitimacy of the state was shaken (ibid). This turnaround was accompanied by reforms imposed externally by institutions such as the International Monetary Fund (IMF), which sought to reshape East Asian governance structures towards a more neoliberal framework (ibid). Subsequently, Wade (2018) argues that developmental states have adapted rather than disappeared and have increasingly incorporated neoliberal elements into their frameworks. This adaptation has seen states such as Korea and Taiwan move from a purely developmental role to a more market-oriented approach, while maintaining a degree of interventionism (ibid.). Furthermore, Evans (1995) highlights that embedded autonomy has become less effective as market conditions change. The increasing complexity of the dynamics of the global economy has challenged the ability of these states to effectively manage economic governance (ibid.).

Overall, the literature on the developmental state has evolved with changing theoretical frameworks, reflecting the complexity of political and economic interactions in East Asia. The developmental state thesis emphasises the role of government in the successful implementation of industrial policies, based on a high level of policy autonomy from the special interests of various economic and political actors in the decision-making process. However, while the developmental state has played an important role in the economic success of East Asia, its decline or transformation depends on both internal dynamics and external pressures. There is an ongoing debate about the relevance of the developmental state in a globalised economy and the need to respond to the global economy.

2.2.1 Korea

The starting point of Korea's developmental state era is generally considered to be the period beginning with Park Chung-hee's seizure of power in a military coup in 1961 and ending with the fall of the Jeon Doo-hwan regime in 1987 due to the Democratisation Movement. The political features during the period of Korea's developmental state can be summarized as follows: the international situation and Korea's geographical location heightened the need for economic growth, and the systematic planning and implementation of economic strategies by the political members in power result in the "Miracle on the Han River". Additionally, selective industry-building interventions, export strategies to secure funding, effective chaebols growth strategies using the government incentives and political structures enabled both growth and the transition from a dependent economy to an independent economy.

As a result of the Korean War of 1951-1953, the Korean Peninsula was divided into two parts. After the war, Korea was positioned as a frontline state against communism within the framework of the Cold War and was heavily dependent on economic and military aid from the US (Cumings, 2005). In this international context, President Park Chung-hee established an authoritarian regime that relied on the military and security forces to suppress opposition, and prioritised economic development and national security through a strong state-led development strategy (Kim, 2016). To achieve these objectives, the Park administration employed legal measures and strengthened media control to violently suppress political protests, including those from civil society (Henderson, 1988; Kim, 2011). In the early 1960s, President Park adopted an export-oriented industrialization strategy based on the vision of "rich nation, strong military" to address the shortage of foreign capital (Amsden, 1989). To implement this strategy, the government established the Economic Planning Board (EPB) to centralize the formulation and execution of economic policies (Kim, 1997). According to Kim and Porteux (2022), decision-making was conducted in a top-down manner, with President Park himself chairing most meetings and issuing direct orders. All government sectors, including education, labour, social welfare, and health, were mobilized to achieve economic goals. The political members involved in economic strategy were primarily U.S.-trained economic technocrats who functioned as highly specialized bureaucrats, responsible for developing long-term economic plans (Kim and Porteux, 2022; Kim, 1997). From the late 1960s to the 1970s, the government promoted a heavy and chemical industry policy, concentrating resources on specific industrial sectors (Kim and Porteux, 2022). This "strategic industrial intervention" targeted not only specific industries but also particular companies, carried out under concentrated government support and regulation (ibid).

The close relationship between the government and chaebols[2] contributed significantly to Korea's economic growth. The government provided various incentives to chaebols, while

[2] Chaebols are largely conglomerates controlled by a single family that play and important role in the Korean economy. Usually made up of several diversified industrial enterprises and characterised by strong ties to the government. the chaebols that emerged in the 1960s and 1970s dominated a range of industries ad contributed to Korea's rapid industrialization and economic growth (Kim and Porteux, 2022).

imposing strict performance standards and requiring them to improve their international competitiveness (Kim and Porteux, 2022). The government provided tax incentives, special loan schemes and subsidies to strategic sectors, while the private sector was closely monitored for growth targets, which affected the level of subsidies provided. Corruption and misuse of state resources were also monitored within political institutions to prevent officials from being swayed by financial incentives. Government-led initiatives, together with the carrot-and-stick approach to economic manipulation and control, were the main drivers of growth, resulting in a highly hierarchical and balance-of-power cooperation between the state and business. However, as the economy gradually matured, this relationship began to change in the late 1970s and early 1980s as global oil shocks and political instability posed challenges to the Korean economy. During this period, the government and business began to share the financial burden to sustain economic growth, establishing a risk-sharing partnership. As a result, business owners came to trust the government and believed that they could benefit from complying with government policies. The relationship between the public and private sector developed into a relationship of interdependence, where the political interests of the state and the financial interests of the businesses are intertwined (ibid).

The development state in Korea lasted until the 1987 democratisation. Throughout this period, the Korean government succeeded in establishing political independence while balancing economic development and national security. The professionalisation of the bureaucracy and strategic cooperation with chaebols enabled rapid economic growth, but changes in regime and economic conditions gradually transformed the relationship between the state and the private sector.

2.2.2 Singapore

Singapore's developmental state period is generally considered to be from its independence from Malaysia in 1965 to the 1990s, when Prime Minister, Lee Kuan Yew was in power. The political features of Singapore's economic growth during the developmental state period can be characterized as a national survival strategy through the economic growth led by a strong state. This strategy emerged from the need for effective governance, as Singapore's limited land, resources and population were made even more difficult by its separation from Malaysia and became an essential factor for survival. Simultaneously, the failure of the integration with Malaysia led to Singapore's tragic independence, prompting the need for a robust national strategy. A combination of a holistic intervention by competent bureaucrats, the attraction of foreign capital, and close collaboration with Government-Linked Companies (GLCs), has transformed a depressed economic and political environment into a prominent and integral part of the global financial and economic landscape.

In 1965, Singapore faced a serious existential crisis when it seceded from Malaysia. This independence forced Singapore, a small country with few natural resources, to adopt a strategy centered on survival and rapid development (Turnbull, 2009). Recognizing the importance of political stability and economic growth, Lee Kuan Yew and the People's Action Party (PAP) government sought to establish a one-party authoritarian system, and a bureaucracy based on efficiency, meritocracy and pragmatic governance (Rodan, 1989). To maintain control, the PAP imposed strict discipline on elements deemed unfavorable to governance,

such as the media, opposition parties and civil society, and used financial penalties and legal intimidation as enforcement measures (Iwasaki, 2018; Hisasue, 2021). The state intervened actively and strongly in all areas related to economic development, including education, housing and urban planning (Lam, 2000). This comprehensive approach can be understood as a 'holistic administrative intervention' in which the state played a leading role in shaping the economy, politics and society. This was in contrast to the selective industrial development interventions seen in Korea, reflecting Singapore's limited resource base. An important aspect of Singapore's success was the attraction of foreign capital and the development of government-linked enterprises (GLCs). The Government played a central role in this process, particularly through the Economic Development Board (EDB), which was established in 1961 and tasked with coordinating industrial policy and attracting foreign investment to promote economic development through industrialization (Low, 2001). The EDB was instrumental in building the necessary physical and institutional infrastructure to support industrialization and provided incentives such as tax breaks and subsidies for foreign multinational corporations (MNCs) to establish manufacturing bases in Singapore. This strategy enabled the transfer of technology and skills from foreign MNCs and played a pivotal role in driving the early stages of industrialization, with the government retaining control of key economic initiatives (Huff, 1994). State-business relations during this period were characterized by strong government intervention and cooperation with foreign companies. However, as the development strategy matured in the 1970s, the government expanded its direct involvement in the economy through the GLCs (ibid.). Interestingly, while these companies operated as for-profit entities in a competitive market, the state maintained an important role in their oversight (Lin and Chang, 2021). GLCs were established in key sectors such as telecommunications, banking and utilities, and served both political and economic objectives contributions; Politically, GLCs strengthened the PAP's control over the economy, while, economically, they provided the state with a mechanism to direct capital and resources into strategic sectors (Rodan, 1989). GLCs promoted industrial upgrading and diversification, guided the national economy and ensured competitiveness in global markets (Rodan, 1989; Low, 2002).

Given the above, it can be observed that Singapore's political and economic development during the development state era was characterized by pragmatic governance, state intervention and close cooperation between the government and the business sector. Faced with the challenges of the early years of independence, Singapore's leaders set out a clear vision of state-led industrialization and navigated through the various stages of economic transformation while maintaining strict political control. The development of a commitment to economic development between the state and business, particularly through the pivotal role of the GLC, enabled efficient policy implementation and adaptation to global economic conditions.

In the light of the above, while the characteristics of the developmental states of Korea and Singapore can be generally regarded as same developmental states, there are a few differences in the content. Both achieved economic growth through strong political governance based on technocrats and meritocracy, and there was industrial intervention and a commitment to economic growth with businesses. Meanwhile, there was a distinction in the form

of governance between them. Korea used military authority to administer governance through violence, whereas Singapore had a one-party system of governance through soft, non-violent means. Differences can also be found in government intervention between selective intervention in industry for economic growth through an outward export strategy in Korea and comprehensive intervention in all sectors necessary for growth through an inward economic strategy in Singapore.

2.3 Analytical Framework

This study bases on two analytical frameworks. First 'embedded Autonomy' by Evans (1995) is helpful to uncover the bureaucracy and public-private relations in promoting economic development. Second, 'the Entrepreneurial State' by Mazzucato (2011) is used to systematically analyze the roles of states as promoters, enablers, investors and risk-takers in innovation. These frameworks would provide valuable insights into the role of the state, as well as complementary perspectives that deepen understanding of the subject matter.

The concept of 'Embedded Autonomy', proposed by Peter Evans (1995), serves as an analytical framework that systematically explains the relationship between the state and economic development, particularly in the context of state-led economic growth in Asia. Evans identifies key factors contributing to the success of the developing state and emphasizes the importance of bureaucratic autonomy and public-private relations in promoting economic development. Specifically, state autonomy refers to the presence of a consistent and competent bureaucracy, while embeddedness refers to the links between the bureaucratic elite and industry. Evans argues for the importance of the state maintaining a balance between policy autonomy and close relationships with society (particularly industry). This balance allows the state to maintain its independent policy-making capacity without being captured by particular interest groups, which in turn facilitates the implementation of effective industrial policies and leads to economic development through industrial transformation (ibid). This study utilizes this analytical framework to understand the function of the state in economic development. By applying this concept, the study aims to uncover how the Korean and Singapore governments have developed their relationship with society and contributed to economic growth while maintaining bureaucratic autonomy. This analysis would allow for a better understanding of what bureaucracy and public-private relations should look like to promote economic development.

The concept of 'the Entrepreneurial State,' proposed by Mariana Mazzuvato (2011), provides an analytical framework for discussing the state active role in facilitating economic growth and innovation. Mazzucato identifies various areas of innovation, including green technology, pharmaceuticals, aviation, computing, electricity, the internet and nanotechnology. She claims that state not simply act as a regulator or as a force to correct market failures, but rather leads economic growth. Concurrently, she stresses that the state should take on an 'entrepreneurial' role in promoting technological innovation. Specifically, she posits that the state should play a leading role in promoting innovation and growth. The state should invest in high-risk and uncertain scientific and technological fields that the private sector tends to avoid, thereby taking on a leading role as a risk-taker. While the private sector often

focuses on short-term gains, the state possesses the ability to consider long-term benefits and build a foundation for research and development. Mazzucato argues that the division of labor, where the government bears initial risks and the private sector utilize the outcomes, accelerates innovation. However, she emphasizes the necessity of mechanisms that ensure returns derived from the results of government investments. Overall, Mazzucato argues that the state should not only act as a funder, but also actively set the direction and goals of technological development and invest in initiatives that promote innovation (ibid). This study uses this analytical framework to understand the role of both countries as drivers of innovation. By applying this concept, it aims to analyze the state policies adopted to promote innovation and the economic outcomes of these policies. This analysis would reveal the roles of both countries as promoters, enablers, investors and risk-takers in innovation and allow for a deeper exploration of the impact of state intervention on economic development.

The concepts of 'Embedded Autonomy' and 'the Entrepreneurial State' are closely connected and share a focus on proactive state involvement in shaping economy. While the embedded autonomy highlights the state's balance of autonomy and connection with industries in growth policy formulation and implementation, while the entrepreneurial state stresses state's proactive role in fostering innovation. The combination of these two analytical frameworks provide a comprehensive understanding how state can effectively drive growth and industrial transformation.

Chapter 3 Methodology

3.1 Research Method

To identify the political causes for economic development, this study exploits a comparative case study focused on political-economy aspects of development in Korea and Singapore. The case study of two states would allow analysis, contextual and complex understanding of how the state intervention from two different political systems affect economic policies, and how it effects its economic achievement. The comparative political economy approach allows to identify patterns and similarities or difference in how state intervention resulting from two different political systems influences industrial policies and its outcome. Combination of these approach enables to compare and contrast the two states, as well as to discover the political factors for economic as a whole.

3.2 Research Focus

The choice of these two cases would be the suitable comparison to identify the political factors attributed to economic development, due to the similarities in economic level and the differences in political regimes (see the table 3.1).

Table 3.1 Profile of Korea and Singapore

	South Korea	Singapore
Geographic	East Asia	East Asia
Previous form of state	Japanese colony (1910-1945)	Japanese colony (1942-45) British colony (1945-59) Malaysia federation (1963-65)
Former political regime (1960-1980)	Developmental state	Developmental state
Current Political regime (Freedom House)	Free (democratic regime)	Partly free (authoritarian regime)
Nominal GDP (rank) [3](2024)	$1.76 billion (14th)	$525.23 billion (32nd)
GDP per capita (rank) (2024)	$34.16 thousands (31st)	$88.45 thousand (2nd)
Economic status [4]	High income economy	High income economy

[3] *IMF DataMapper* (no date).

[4] *Facts about Asia: South Korea and Singapore: Economic and Political Freedom - Association for Asian Studies* (2023). https://www.asianstudies.org/publications/eaa/archives/facts-about-asia-south-korea-and-singapore-economic-and-political-freedom/.

Major industries	• Manufacturing -Automobile, -electronics, -chemical products • Service industry • Information and Communication Technologies (ICT) • Trade • Construction *Source: statistics Korea, Q4/23, GDP at current price	• Manufacturing -electronics, -chemicals, -biomedical science • Financial services • Trade and logistics • Information and Communication Technologies (ICT) • Tourism *Source: Singapore department of statistics, nominal GDP 2023

In the process, the comparative time period is the 40-year period from the 1980s to the present (2024), which is the suitable period considering the democratic transition in Korea. The comparative focus will be on the key economic sector shared by the two countries: the Information and Communication (ICT) sector. According to the 2023 Global Finance rankings, South Korea ranks first in technological progress and ability to utilize cutting-edge technologies, while Singapore ranks 11th (Global Finance, 2023). Korea contributes to digital innovation with global IT companies such as Samsung and LG and semiconductor production (Sandu, 2023), while Singapore has shown excellent digital performance as a global internet hub[5] under the Smart Nation Promotion Initiative[6]. Additionally, as this study focuses on economic development in the ICT sectors of Korea and Singapore and the relationship between the state and the market, it is divided into four sections: political transitions in the two countries (including political regime and bureaucratic system), changes in the government's economic strategic approach (including analysis of interventionist and neoliberal market-based), the policy content of the ICT industry and its economic effects, to see how politics has intervened and approached ICT growth and how they have influenced and generated economic effects.

3.3 Data Collection and the Analysis

The study collected quantitative and qualitative datas. Quantitative data were used to collect economic datas through secondary data, such as international and national databases and economic research reports. Comparison and analysis of economic data is necessary to measure the two states of economic activities: the IMF, the World Bank and national statistical agencies (e.g. the Korean Statistical Office (KOSTAT) and the Singapore Statistical Office) and economic surveys and reports (e.g. the Asian Development Bank and the OECD) provide reliable data on statistical evidence. These wide range of information were helpful for for cross-referencing, data validation, and understaning historical, political and economic

[5] Singapore is one of the world's leading submarine cable hubs, with 24 submarine internet cables connecting it to key locations around the world, ensuring excellent digital connectivity (US international trade administration, 2024).

[6] The Smart Nation Initiative was announced by Lee Hsien Loong in 2014 to promote digitisation and to create a government-led 'digital government', 'digital economy' and 'digital society' (Smart Nation Singapore, no date).

goals and structures. Meanwhile, qualitative data were used in the collection of secondary sources, such as academic literature, public government documents and news. They offered political and economic contexts that could not be represented by quantitative data, and supported the analysis of this study and greatly enhance the quality of the research.

However, although policy documents were an important source of information in this study, obtaining publicly available government policy documents was difficult. These are often unavailable due to error display and lacked details on specific implementation processes or measures. The cause of the error display could result from URL changes, removal of documents, access restriction and so on. Therefore, alternative information based on reports from think tanks, research institutions and private research organisations were used.

Chapter 4 Empirical Findings

This chapter explores the evolution of political and economic characteristics in Korea and Singapore over the decades as well as ICT policy contents and its outcomes, and provides necessary information to identify weather differences can be found in the state intervention in the next chapter. For this purpose, it investigates how state intervention took place under different political regimes by exploring changes in broadly conceptualized political-economic features, including the political system, bureaucracy, the state's market approach and the dynamic relationship between the state and business. Additionally it reveals their ICT industrial policies and achievements they have made in ICT development.

4.1 Transition in State Formation

4.1.1 Political Trajectories

Korea: Gradual Democratic transition

The June Democracy Movement of 1987 is often cited as an important turning point in South Korea's political development. The shift to a democratic path as a post-development state is characterized by a gradual transition to democracy. Chatham House (2022), a British think tank, divides Korea's democratic phase since 1987 into two phases: democratic paternalism (1987-2001) and participatory democracy (2002-present). It presents while the democratic foundations are gradually forming, ongoing challenges remain..

In the democratic paternalism phase (1987-2001), reforms began under President Roh Tae-woo (1987-93), who introduced institutional reforms, including the introduction of direct presidential elections for a five-year term, the restoration of local government, and the drafting of a new constitution (Chatham House, 2022). However, reforms were piecemeal, authoritarian institutions from the Park era remained in place, and the state continued to have tools to limit the growth of new political opposition forces and parties with mass support (ibid.). Although the regime conducted democratic reforms, past developmental state's practices continued in various state institutions, which some scholars refer to as "semi-democracy" (Diamond and Shin, 2014).

During the participatory democracy phase (2002-present), social media, the impact of modern technology, and regularized citizen demonstrations have weakened traditional political elite's influence. In particular, the election of President Roh Moo-hyun (2003-2008) represented a deepening of democratic participation, as he successfully used social media to mobilize young voters (Chatham House 2022). He made efforts to increase political participation and transparency of political activities, such as revealing the existence of black collaboration in past Korean politics by unsealing classified documents (Moon, 2009). However, his progressive, open-minded policies were eventually impeached after a period of political instability as he faced opposition from the political mainstream and struggled to implement key reforms (Choi, 2010). Subsequently, President Park Geun-hye (2013-2017), daughter of Park Chung-hee, was plagued by corruption scandals and abuse of political power, and a

return to past authoritarian practices was observed (Hahm, 2018). In fact, the Park administrate was criticized for its poor handling of the 2014 Sewol ferry disaster[7], which led to widespread protests and a loss of public trust in the government (Chatham House, 2022). However, the Candlelight Movement, a series of mass protests demanding Park's resignation, was significant in that it demonstrated the strength of Korean civil society and public commitment to democracy, and the Park was eventually impeached and removed from office (Chang, 2017; Kim 2019). This was a manifestation of the resilience of the Korea's democratic institution. Overall, while democratic participation has increased in this phase, issues such as corruption and political distrust and abuse of power persist. Media coverage of scandals and unfair practices has exposed the challenges of fair elections (Chatham House 2022). Political polarization, regionalism, voter apathy among the younger generation also threaten democratic accountability (Lee, 2018; Shin, 2017). Thus, Korea's political development since 1987 has been characterized by ongoing challenges as well as important achievements in democratization.

Singapore: Calibrated Liberalization while Soft-Authoritarianism

The political change in Singapore is characterized by a gradual and controlled process of reform rather than dramatic change. The transformation of Singapore's political landscape can be understood through various stages, ranging from strict authoritarianism to what some scholars refer to as "soft authoritarianism" or "managed democracy" (Levitsky and Way, 2010; Ooi, 2009). Relatively speaking, Singapore's political system can be interpreted as incorporating liberalization to a degree that does not undermine the governance of the People's Action Party (PAP), thereby maintaining a controlled political environment reminiscent of the developmental state era.

Lee Kuan Yew (1965-1990) and the authoritarian rule of the PAP suppressed opposition through legal mechanisms and restricted civil liberties and political dissent (Iwasaki, 2018; Hisasue, 2021; Muttalib, 2000). Goh Chok Tong (1990-2004) adopted a more open approach, promoted 'consensus and cooperation' and introduced administrative reform and transparency, but the PAP continued to dominate (Lam, 2000; Ortman, 2009). Lee Hsien Loong (2004-2024) further encouraged tolerance towards civil society and responded to international pressure, but the opposition remained constrained (Rodan, 2006; Iwasaki, 2018). He emphasised social stability but also aimed to strengthen transparency (Prakash & Abdullah, 2022). In 2024, Lawrence Wong took over as Prime Minister and focused on building support for the elections scheduled for November, as public attention focused on Singapore's political evolution (Edelman Global Advisory, 2024). Historically, the PAP's vote share has hovered between 60-70%, but a drop to the low 60% range raises concerns about the stability of the government, which will be important going forward (ibid.).

Scholars describes Singapore's political system as soft-authoritarian, blending authoritarian and democratic elements. Levitsky and Way (2010) classyfy Singapore between "pure" and a "competitive" authoritarianism where elections are regular and free but not

[7] Sewol ferry disaster in 2014 was a catastrophic event in which a passenger ferry capsized, killing more than 300 people, mostly high school students.

entirely fair. Hamilton-Hart (2000) notes restrictions on individual freedoms and pervasive state influence in all areas of citizens' lives. Bell (1997) and Low (2000) even label Singapore's democracy as "soft authoritarianism" or "semi-dictatorship." Prakash and Abdullah (2022) use the concept of "calibrated liberalization[8]" to describe the Singapore's controlled political openness, allowing the PAP to maintain dominance while adapting to societal expectations. This managed liberalization is designed to balance power retention with limited liberal reforms to sustain economic growth and social stability. Despite one-party rule of the PAP, Singapore leaders recognize gradual adaption to meet evolving public demands.

Korean Bureaucracy; Mix Adoption of Meritocracy and NPM

Cha and Im (2024) argue that the Korean bureaucracy has evolved from a strict meritocracy during the development state era to a mix blending meritocracy and New Public Management (NPM) since 1994. This transition incorporates market-driven reforms through public-private pertnership and hierarchical, results-oriented approach, which has enhanced contemporary governance efficiency (ibid). Rooted in Confucian values, Korea's meritocratic bureaucracy has historically played a critical role, with elite technocrats driving economic development thorough close state-industry collaboration, particularly during Park Chung-hee's state-led industrialization (Amsden, 1989; Evans ,1995). However, the 1997 Asian financial crisis and global public administration trends raised the demand for administrative reforms, Korea promote the adoption of NPM[9] (Cha and Im, 2024). Key reform introduced sophisticated evaluation system for fiscal management, performance, and human resources, acerating a shift towards NPM principles(ibid).

Despite this transformation, Korea's hierarchical, merit-based bureaucracy remains strong (Cha and Im, 2024). During the 2019-2023 pandemic, the bureaucrat's rapid top-down decision-making, supported by expert consultation, demonstrated its effectiveness in managing public-private partnerships and crisis responses. Korea's hybrid bureaucracy, blending traditional meritocracy with market-oriented NPM practices, is recognized as a resilient model amid global moves towards decentralization and deregulation (ibid.)

Singapore Bureaucracy; Mix Adoption of Meritocracy and NPM

Haque (2004) claims that Singapore's shift toward NPM in governance reforms aimed at economic growth, with minimal links to political liberalization. During developmental state, Singapore's bureaucratic governance was interventionists, efficient and technocratic, and those enabled bureaucrats to effectively manage the economy and partner with foreign businesses while controlling corruption (Haque, 2004; Low, 2000; Yeung, 2000). Since the late 1980s, Singapore has aligned with global trends of state downsizing, and restructured its bureaucracy through the adaption of NPM principles to foster competitiveness and economic

[8] Calibrated liberalization serves as a useful analytical tool for evaluating how authoritarian regimes maintain power (Prakash and Abdullah, 2022).

[9] This approach integrates private sector practices to improve government efficiency, service delivery, and accountability

growth (Haque, 2004). Initially, state intervention was effective due to a weak private sector (Mizuho, 2017), but as private sector became active, bureaucrats adopted market-driven policies in public management. However, this transition was slow, involving "limited privatization" and "managed competition" (Haque, 2004; Heracleous, 1999).

Despite the introduction of market-oriented reforms, Singapore bureaucratic structure and interventionist approach remain largely intact, with the government retaining strong control, especially during economic challenges (Haque, 2004). While economic governance has incorporated market-oriented approaches political governance remained largely unchanged and sustains a state-driven policy framework (Rodan, 2006).

4.1.2 Transformation of Economic Strategy of State

Korea: Hybrid System

Uttam (2019) and Chang (2019) argue that Korea embodies a hybrid system that combines both market and non-market features, wherein the state leverages its enhanced capabilities to improve the efficiency of the market system. The 1997 Asian financial crisis highlighted the limitations of the developmental state model, criticized for disporting markets and creating non-transparent interventions (Johnson, 1999). The crisis strengthened supports for neoliberalism, with IMF-guided reforms promoting corporate transparency and financial liberalization (Pirie, 2005; Uttam, 2019). Despite Korean earlier adoption of the neoliberal policies even before the crisis, Korean has not fully embraced them due to the legacy of state-led development. Critics, including Ha-Joon Chang at al. (1998), argue that the financial crisis in Korea was caused more by Western pressures than by systematic failure. Rather, they blame Western pressures that led to poorly coordinated financial liberalization as the main cause of the financial meltdown, and that multiple pressures generated by the IMF, Wall Street, and the U.S. Treasury let to the hasty introduction of uncoordinated monetary and industrial policies, and which dismantled Korea's proven nationalist legacy. To rebuild their economy, Korean pursed a strategy to transform into a "science and technology state" and enhanced technological innovation, focusing on high-tech ICT industries to strengthen its global position (Uttam, 2019).

The relationship between the state and chaebols evolved from an asymmetrical one with an imbalance of power to a more cooperative and symbiotic model. While the state continues to intervene in strategic ICT sector, it now offers indirect support through research and development (R&D), fostering collaboration between the state, society and the market (Kim and Porteux, 2022; Keenan, 2012). This shift reflect a broader transformation towards balancing state leadership with market dynamics.

Singapore; Hybrid system

Dugo (2022) analyzes Singapore as a hybrid system where market-driven policies and state intervention together foster economic growth and political stability. Singapore adopted neoliberal principles from the independence in 1965, and GLCs operates similarly to private sector manner, despite occasional state intervention (Mizuho, 2017; Dugo, 2022). The government's flexible focuses on minimizing interference while maintaining influence over the

GLCs to ensure competitiveness (ibid). This approach is tied to Singapore's need for survival as a small nation, and the PAP focuses on economic development and political stability through performance-based policies (Haque, 2004; Wee, 2012). The concept of a 'corporate state' is often linked to the business-oriented approach of Singapore's economic model (Dugo, 2022). The government applies a business-like method to policy such as assessing costs and benefits to improve efficiency (Schwartz, 2010; Dugo, 2022). It also prioritizes the state interests and rewards public servants based on performance (Lee, 2010). This entrepreneurial state management has been integral to the country's economic success. In the late 1970s, neoliberalism emerged in the West through leaders such as Thatcher and Reagan, but Singapore's PAP adapted it by maintaining state involvement in key industries while privatizing certain GLCs to increase competitiveness and efficiency (Rodan, 2016; Dugo 2022).

In response to labor shortages and regional competition in the 1980s, the Singaporean government launched an industrial upgrading policy, focusing on capital- and technology-intensive industries (Iwasaki, 2018). As part of this policy, IC) was identified as a new economic driver, and the development of knowledge-intensive industries became integral to the national survival strategy (Municipal Internationalization Association, 2021). In this context, the privatization of certain GLCs was promoted to enhance competitiveness and efficiency through market-oriented reforms. Also, state-business relations evolved into a more liberalized and cooperative framework, with the government facilitating growth by partnering with GLCs and foreign firms (Prakash & Abdullah, 2022). Since the 1980s, the government has worked to increase GLC autonomy while maintaining oversight, particularly in key industries (Chong, 2007; Lin & Chang, 2021). Today, the government supports GLCs and the private sector through provision of digital infrastructure, acting as both regulator and enabler. Also, this shift towards digital transformation focuses on innovation and competitiveness in global markets, strengthening public-private partnerships (Greener & Yeo, 2022; Sam, 2010). Singapore's state-business relationship has thus evolved into a more cooperative, symbiotic model, reflecting the state's adaptive strategy to meet economic and innovation challenges in a rapidly changing global environment.

State's relationship with Chaebols and GLCs and role of them.

Examining the policy relationships between the Korean government and chaebols, as well as the Singaporean government and GLCs, is crucial for understanding the success of ICT development in both countries. Historically, both countries have utilized specific businesses to foster industrial growth, but their governance, regulation, and cooperation with the private sector differ significantly and has been changing their cooperative framework for the growth.

In Korea, the state used to play a central role in guiding chaebols. During the developmental state era, a balance of power existed between the state and chaebols, with the government closely intertwined with their economic activities (Kim and Porteux, 2022). Since the 1980s, a cooperative relationship has emerged, with the government encouraging chaebols to invest in key industries through financial incentives such as low-interest loans and tax breaks. This support has been vital for Korea's rapid industrialization, enabling companies like Samsung and Hyundai to become global leaders. As chaebols have grown to dominate the domestic market and diversified their businesses, the State has also played a role in

preventing monopolistic practices. However, symbiotic cooperation in growth strategies is maintained to align national interests (ibid). In contrast, Singapore's GLCs operate commercially and are integral to the country's growth strategy. Since the 1960s, the state has promoted GLCs to enhance national competitiveness, allowing them to manage various industries independently (Mizuho, 2017). The government's role is primarily supervisory, providing strategic direction and financial support without interfering in daily operations (Lin & Chang, 2021). GLCs are expected to operate efficiently, contributing to national goals like job creation and technological advancement (ibid). Both chaebols and GLCs are also critical to their countries' internationalization efforts. Chaebols are encouraged to seek global markets, while GLCs are incentivized to expand as part of Singapore's regionalization strategy (Yahya, 2005). Despite their unique historical and political contexts, both countries have effectively leveraged their corporate structures to drive economic growth and ICT development, albeit through different governance approaches.

Both states have a commitment to growth strategies with chaebols and GLCs, and governments have offered them the support and involvement necessary for the growth. At the same time, both governments do not treat them in a special way, such as the Korean government overseeing the market dominance of chaebols and the Singapore government ensuring autonomous management of GLCs same way as the private sector. This indicates that while there is a cooperative relationship with the businesses, the governments have the autonomy to ensure that the state is not constrained by some interest groups for the benefit of the whole. The state's leading role in driving growth while maintaining connections with businesses and political autonomy highlights the governing role of the state in attaining economic development.

4.2 Policy Contents

4.2.1 ICT Growth Strategies: Outward in Korea and Inward in Singapore

While both Korea and Singapore have embraced ICT as an important growth strategy, their approaches are very different. Korea excels in the development of hardware products, particularly smartphones and technological communications equipment, and has adopted an outward-oriented strategy focused on exporting these products globally. In contrast, Singapore excels in the services sector, including ICT services, software development and data center operations, and has adopted an inward-oriented strategy aiming to attract foreign companies.

These differences in approach stem from each country's historical background, geography and economic size. After the war, Korea was affected by the Cold War and needed to establish a strong industrial base as a bulwark against communism (Cumings, 2005). This existential crisis led to an emphasis on the economic development by intensifying domestic enterprises, especially chaebols, and adopting model of an export-oriented growth (Amsden, 1989). As of 2024, the Korean economy ranked 10th in terms of nominal GDP (World Bank), and it well reflects the maturity and competitiveness of domestic firms. Conversely,

Singapore lacks natural resources and has a smaller land and population than Korea, which does not give it ability to prosper solely by expanding its domestic market. For survival in a competitive international economy, Singapore has tried to maximize the size of its economy by attracting foreign businesses and establishing itself as a hub of an international network (Low, 2001). As a consequence, despite its small economy, Singapore's reliance on this global linkage enabled it to remain an important Asian hub, ranking 32nd in nominal GDP by 2024 (World Bank).

Korea has pursued a self-reinforcing economic growth strategy, while Singapore is heavily dependent on foreign investment. This difference also can be applied to the ICT sector, where Korea has been developing and exporting technology products, leveraging its manufacturing strengths represented by major electronics companies such as Samsung and LG (Choi, 2023). Singapore, on the other hand, aims to establish itself as an ICT hub in Asia, attract regional headquarters for multinational corporations (MNCs) and foster a start-up ecosystem to promote overall digitalization, particularly in the services industry (Singapore Economic Development Board, 2023).

4.2.2 Vertical Time-Based Policy Implementation

This section analyzes the development of ICT policies in both countries from a chronological perspective to identify changes in policy objectives and strategies. It will also explicitly highlight how governments have formulated and implemented their ICT policies through incremental and structural approaches.

Lee (2021) and Erh (2023) analyzed the historical ICT policy development by dividing them into five stages based on shifts in strategy and objectives (see the table 4.1). Their analysis indicates several commonalities: both states exhibit a strong top-down government-led policy, a primary focus on infrastructure development, an expanding involvement of both public and private sector, a cross-sector coordination structure, and the provision of consistent and flexible state policies over time.

Table 4.1 Phase for ICT development

Korea	Singapore
1. **Introduction and preparation (1983-93)** Building the National Basic Computer Network and Sprouting of the information society 2. **Full-scale promotion and diffusion (1994-2000)** Building the High-speed information infrastructure and establishment of an informatization implementation system 3. **Advancement (2001-2007)** Establishment of E-government in full swing and IT as a means of economic and social innovation 4. **Change and transition (2008-12)** Convergence of IT and other industries and dispersion of policy function 5. **Seeking second leap (2013-present)** Digital transformation toward a hyper connected intelligence society and realignment of policy implementation system	1. **The National Computerization Plan and Civil Service Computerization Program (1980–85)** Digitizing the public sector by improving internal processes and managing the use of data. 2. **National Information Technology (IT) Plan (1986–90)** Productivity boost and economic growth through the use of IT in the private sector. 3. **IT2000 and the National Infocomm Infrastructure (1991–99)** Encouraging the creation of new products to increase the competitiveness of businesses, through infrastructure development and an increase in the amount of R&D and innovation. 4. **Infocomm 21, Connected Singapore, Intelligent Nation 2015 (iN2015) (2000–16)** Restructuring the country around the technology advancement and the introduction of ICT to improve processes. 5. **Smart Nation (2016–22)** Diffusion of digitalization across inter- and intra-industry boundaries and promotion of economic growth through integrated.

Source; Lee (2021) and Erh (2023)

According to Lee (2021), Korea's ICT policy began with government-led informatization in the 1980s. The initial phase (1983-1993) focused on establishing a basic digital infrastructure, exemplified by the National Basic Computer Network Project, which integrate computers across government ministries to enhance the efficiency and offer the public online services. This phase built the foundation of Korea's information society, initially limited to the central government, but later expanded to include local governments and the private sector. In the second phase that followed (1994-2000), the government promoted high-speed information networks to align with global trend and to support economic recovery after the Asian financial crisis. This period witnessed a shift in policy implementation from the public sector to the private sector, including a national IT training program to improve the digital skills and facilitate the widespread ICT adoption. During the third phase (2001-2007), ICT was further recognized as a core driver of innovation and economic development, which accelerated the implementation of e-government and reinforced inter-ministerial cooperation. The fourth phase (2008-2012), focused on integrating ICT with other industries moving beyond basic infrastructure and enhance e-government services once again in line with the

rise of smartphones. The latest phase (2013-present) emphasized digital transformation and the fourth industrial revolution, positioning emerging technologies such as AI and big data as drivers of economic growth. current policy support the convergence of ICT with other sectors and promote the creation of new business models and social value through digital innovation (Lee, 2021).

Erh (2023) also analyzes Singapore's ICT policy, starting with internal government digitalization. In the initial phase (1980-85), the focus was primarily on improving the efficiency of internal processes and data management. Meanwhile, local IT companies received contracts under the Civil Service Computerization Program (CSCP), gained experience through the government contracts. Although the private sector's digitalization engagement were small, the government supported them through tax incentives and presenting imitation models. Next phase (1986-90), the focus shifted to boosting productivity and economic growth through IT in the private sector. Policies aimed to promote the ICT industry growth, encourage innovation and exports, and develop human resources, employ "hand-holding" approach to providing comprehensive support. The third phase (1991-1999) centered on the IT2000 initiative, which aimed to enhance ICT infrastructure and R&D. This phase transitioned from merely increasing productivity to promoting new ICT related product development, particularly in e-commerce, while also addressing cybercrime through reinforced regulations. The fourth phase (2000 to 2016) focused on industrial restructuring and process improvements via ICT, with government investments in high-value-added sectors and specialized human resource development. In the fifth phase (2016-2022), the Industrial Transformation Map (ITM) identified private sector technology adoption as crucial for cross-industry growth, initiating a broad digitalization effort. The government also prioritized AI and data analytics development in both sectors, introducing new cybersecurity laws and an AI governance framework to bolster the ICT sector (Erh, 2023).

4.2.3 Horizontal Space-Based Policy Implementation

This section analyzes the development of ICT policies in both countries from a synchronic perspective. It explicitly identifies the involvement of the governments in ICT policies; what policies the governments implemented, to what extent they were involved in the policies, what instruments they used in policy implementation. The table 4.2 below provides a brief summary of the ICT industry policies undertaken by both countries.

Table 1.2 Space-based policy contents

Sort of Policies	South Korea	Singapore
E-Government[10]	• Computerization and informatization at the whole government level. • Huge expenditure on building digital infrastructure. • Highly centralized approach • Coherent and adaptive policy • Expansion from public to private sector	• Computerization and informatization at the whole government level while reforming their work. • Huge expenditure on building digital infrastructure[11] • Highly centralized approach • Coherent and adaptive policy • Expansion from public to private sector
R&D Investment	• Globally high Gross R&D expenditure /GDP • Increasing R&D expenditure (foundamental R&D investment by the public sector and increasing R&D capacities of the private sector) • Close collaborations amongst companies, institutes of higher learning, research institutes as well as public agencies. • Promotion of international R&D corporation and attracting foreign R&D centers	• Establishment of large R&D centers in priority field • Increasing R&D expenditure (R&D underpinned by fundamental public sector support) • Multi-layered government support for R&D • Close collaborations amongst companies, institutes of higher learning, research institutes as well as public agencies.
Human Resource Development	• Developing high-level domestic human resources through educational reforms and scholarships • Attracting overseas high-level human resources • Information gathering on Korean in overseas countries	• Developing high-level domestic human resources through educational reforms and scholarships • Attracting foreign high-level human resources and renowned universities

Korea

The Korean government's industrial policy for ICT development focuses on developing essential infrastructure and conditions for the private sector to utilize. E-government, R&D support and human resource development serve as the foundation for this growth. The state also compensates for the limitations of the private sector through subsidies, incentives and public-private partnerships. This approach facilitates policy diffusion and increases the overall effectiveness of ICT development initiatives. Chaebols, meanwhile, receive strategic

[10] E-Government refers to initiatives that utilise information and communications technology (ICT) to digitise services and information provided by governments and offer them online to citizens and businesses.

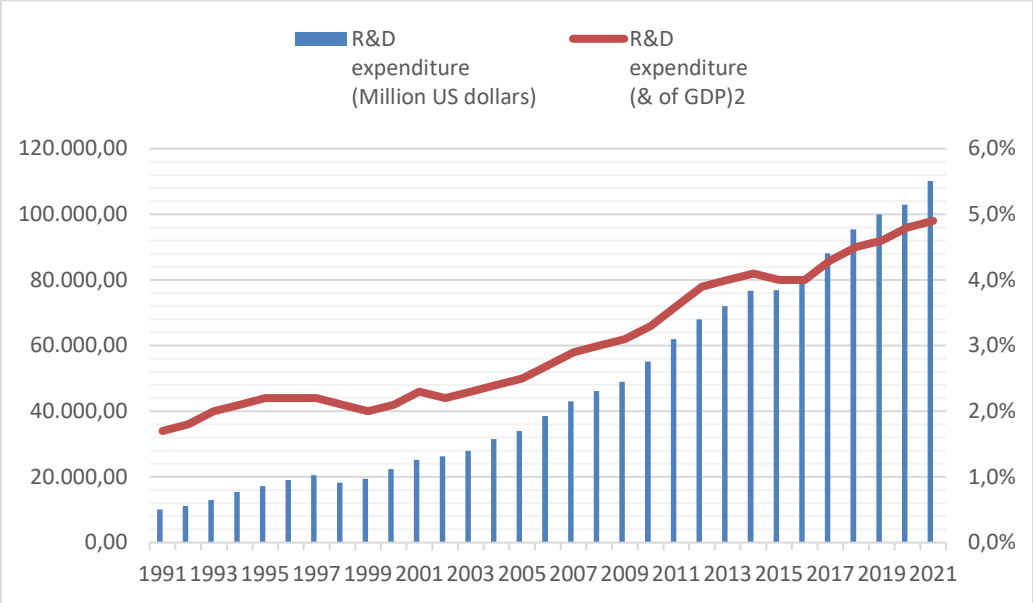
[11] The nation invested heavily in building a robust telecommunications network, with state-of-the-art data centers, undersea cables, and cutting-edge technology infrastructure. This solid foundation laid the groundwork for future advancements. (i.e. online services)

support from the state, but are more autonomous in their business improvement. The following is a summary of the ICT industry policies planned and implemented by the Government.

- **E-Government**
  Government-led digitization is crucial in providing infrastructure in national ICT development. Korea's e-government initiative aimed to digitize business and public services (Lee, 2021). For example, "one-stop service" services were established that allow citizens to access various online services and allow citizens to receive public services without bringing certificates and documents to the public institution. The digitization of government, under a highly centralized approach, led to significant investments in digital infrastructure, and which lead to offer the foundation for subsequent technological integration and growth across the private sector. Despite political changes, Korea also demonstrated adaptability in maintaining consistent policy goals while quickly shifting strategies to embrace emerging technologies such as AI, 5G, and IoT (ibid.). This represents the government's consistent and flexible leadership.

- **Research and Development Investment**
  The Korean government-led R&D policy has been crucial in promoting ICT, especially through partnerships with large chaebols and foreign companies (Uttam, 2012). In particularly recent years, chaebols have become more independent in their R&D activities, as they have rapidly expanded their markets and diversified their industrial offerings. In fact they have diversified their technology acquisition by establishing R&D branches abroad or cooperating with MNCs. While chaebols play an important role in R&D, government support remains essential for fostering innovation, especially in high-uncertainty and innovative sectors that require significant investment, such as AI and IoT. The Korean government's experience in shaping the economy has effectively supported emerging sectors and ensured continued technological progress (Uttam, 2012). Over the past 3 decades, Korea has maintained the highest R&D expenditure as a percentage of GDP among OECD countries (see the figure 4.1 below) (Keenan, 2012; OECD, 2023).

Figure 4.1 Gross expenditure on R&D and GDP In Korea (1991-2021)



Source: Based on data from OECD R&D Statistics Database.

Currently, an increasing proportion of R&D expenditure is spent on basic research, mainly carried out by the business sector (Keenan, 2012). Although the state is now placing more emphasis on commercial outcomes, the Government Development Research Institute (GDRI) is the largest public sector research implementing agency and conducts difficult, large-scale research. Also, governments have implemented policies to strengthen international R&D cooperation and attract foreign research centers to transfer the knowledge and promote technological innovation (ibid).

- **Human Resource Development**

  As Korea intensifies ICT industries, it becomes essential to reform the education system to meet the demand for advanced ICT skills. The government targeted both the youth and the existing workforce to upskill domestically, as well as attracting talented people from abroad. Keenan (2012) notes Korea's human resource development policies aims at promoting specialization and aligning skills with labor market needs. This includes systematic evaluation of universities, institutional reforms and incentives to link business needs with skilled labor, addressing the labor supply-demand mismatch. Life-long learning initiatives have also been introduced to make better use of the existing workforce, but a lack of incentives for both employers and employees has hindered the wide-spread adoption. Although the government has recognized the need to expand its focus beyond young people to the current workforce, this shift has not been fully embraced by educational institutions and businesses, and there are labor market rigidities that limit access to learning opportunities (ibid).

In the international context, the government has endeavored to attract foreign talent through scholarship programs, which have historically enabled many of Korea's best and brightest to study abroad and return home with valuable knowledge (Keenan, 2012). However, with the rise of the brain drain, Korean companies have independently begun to recruit experienced professionals from the US semiconductor industry. To address the shortage of skilled labor, the government is also promoting international R&D cooperation, aiming to attract foreign research institutes, students and skilled researchers to South Korea (ibid).

- **Financial Aid**

  The government believes that the growth of the ICT industry requires the involvement of a wide range of non-state actors, thus providing financial support to a range of firms, from SMEs to chaebols (Kim and Park, 2020). This support includes tariff reductions, preferential interest rates and research and development subsidies for companies developing new technologies. These financial incentives aim to promote the mutual interests of the state, society and the market and lay the foundation for the innovation needed for technological progress in Korea (Uttam, 2012). These incentives are particularly effective in building cooperation and enlarging social involvement in science and technology.

  While Korea's industrial structure has traditionally favored chaebols, the importance of strengthening SMEs for innovation is increasingly being recognized in the development of the ICT sector (Keenan, 2012). Keenan (2012) highlights that SMEs provide an important building block for chaebols and operate in a dynamic way that large companies cannot. The government has therefore incentivized SMEs to intensify their R&D activities and diversify their funding sources through direct financial assistance, tax and duty exemptions for R&D equipment and exemption of researchers from military service. Furthermore, the government assists entrepreneurial activity by providing loans and compensation schemes to stimulate private venture capital, thereby strengthening start-ups and facilitating mergers and acquisitions (ibid.).

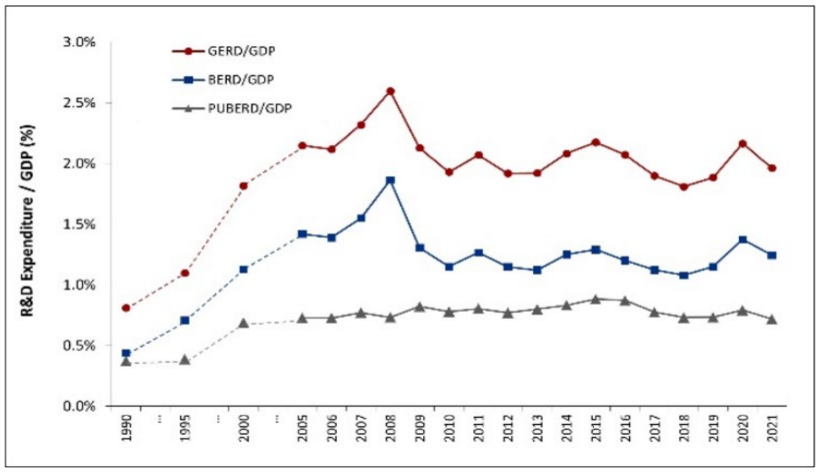
Singapore

The Singapore government also plays an active role in pursuing ICT development, but its intervention is strategic and limited. The government has focused primally on building ICT infrastructure development, such as R&D support and human resource development, to provide the foundation and environment for the private sector to foster its further growth. Now more than ever, the government is moving forward a great emphasis on public-private partnerships. The government is balancing intervention for infrastructural development and lasses-faire for growth, while providing the support that governments should provide with an eye toward sustainable growth. Policy implementation involves public-private partnerships, which not only encourages policy expansion, but also emphasizes efficient and results-oriented policy implementation.

- **E-Government**
  The government of Singapore is taking a leadership role in advancing the country's ICT development by initially promoting digitization of the government through strong public policy initiatives, and providing the necessary foundation for development. According to Erh (2023), e-government policies aims to streamline administrative procedures and increase the efficiency of public services. For example, the Inland Revenue Authority of Singapore (IRAS) introduced e-filing of tax returns to streamline the process and improve the user experience (Teo & Wong, 2005). E-government then provided the underlying infrastructure to support digitization, which later enabled the private sector IT industry to grow through large incentives (ibid.). Also, with the expansion of the Internet, cross-industry collaboration has been enhanced, involving the co-creation of government, citizens, and businesses (Clair Singapore, 2020). These are the result of the government's ability to respond flexibly to technological advances, while maintaining consistent policy objectives, as in Korea.

- **Research and Development Investment**
  R&D investment is a key policy intervention by the Singapore government to promote ICT growth, underscoring its important role (see the figure 4.2). Singapore's total R&D expenditure as a percentage of GDP increased steadily until the late 2000s. Although R&D expenditure has not increased dramatically in recent decades, the government's share of R&D investment is notably higher than in any other country (Clair Singapore, 2020). The government prioritizes applied research and experimental development and promotes research for higher industrialization. Although business sector expenditure on basic research has increased, the public sector still has a strong base for basic research spending, spending more than the business sector (National Research foundation, Agency for Science, Technology and Research, 2021), which is consistent with Mazzucato's (2011) view that public institutions should take the lead in exploratory research. Foreign researchers account for about 30 per cent of the total, suggesting that government initiatives to attract highly qualified personnel are effective (Clare Singapore, 2021).

Figure 4.1 Gros, business and public expenditure on R&D and GDP[12] (1990-2021)



Source; National Research Foundation, Agency for Science, Technology and Research (2021) National survey of Research, Innovation and Enterprise in Singapore 2021.

The National Research Foundation (NRF) formulates and promotes science and technology policy, coordinates inter-ministerial research activities and funds long-term growth areas (Clare Singapore, 2021). The Economic Development Board (EDB) supports infrastructure and provides tax incentives to attract companies, while other public institution, such as the Agency for Science, Technology and Research (A*STAR), funds company-led research for commercialization. In addition, the Ministry of Education supports basic research at universities and promotes human resource development through researcher-led projects. These multi-layered policies create an environment conducive to ICT research and development, attracting talented researchers and multinational companies and enhancing Singapore's competitiveness (ibid).

- **Human Resource Development**

  Singapore's ICT human resource development policy focuses on youth, the existing workforce and international talent, and aims to develop a skilled workforce to meet ICT industry needs. Domestically, the Ministry of Education promotes skills acquisition through education reforms and scholarship programs to enhance ICT education and teacher training (Natarajan et al, 2021). Initiatives such as the "Skills Future program" empower Singaporeans with practical skills related to the digital economy, with an emphasis on immediate employment (Queux & Kuah, 2020). Policies that encourage student innovation and match educational outcomes to industry demand also enhance workers' adaptability to emerging technologies (Tee, 2004). In addition, scholarships in science and technology support the continued learning of diverse industry workers in the ICT sector (Clair Singapore, 2021).

[12] GERD: Gross Expenditure on R&D, BERD: Business Expenditure on R&D, PUBERD Public Expenditure on R&D

To attract high-level talent, the government has invited top scientists from abroad to enhance the country's R&D capacity (Clair Singapore, 2021). This approach provides competitive rewards and a supportive research environment, while at the same time maintaining a rigorous evaluation system for their research. This strategy complements the development of domestic human resources, gradually shifting the main focus to the development of the domestic workforce as the foreign policy produce the outcome to some extent. In addition, Singapore has established CREATE, a joint research facility between national universities and leading foreign universities, to facilitate cooperation in strategic research areas. The government also provides scholarships to attract talented international students to research institutions and encourages international students who wish to become Singapore citizens to contribute to the local research landscape (ibid.). Through these comprehensive measures, Singapore aims to build a strong ICT workforce that will drive innovation and economic growth.

- **Financial Aid**

  The Singapore government provides fiscal incentives, such as tax incentives and financial assistance, to promote ICT development and encourage partnerships between businesses and the government. This approach aims to attract foreign companies and encourage the introduction of ICT-related knowledge and skills to domestic firms. Attracting MNCs is a core part of Singapore's economic strategy, as they bring capital, technology and expertise that are in short supply domestically (Mizuho, 2017; Erh, 2023). The presence of these businesses has led to industrial upgrading, job creation and the development of a skilled workforce. The Economic Development Board (EDB) provides incentives for MNCs to establish their Asian headquarters in Singapore by offering preferential taxation and subsidies, as well as a favorable business environment characterized by a well-disciplined and educated workforce (Pereira, 2005). This strategy enhances Singapore's position as a regional hub, facilitates knowledge transfer and cooperation between local and MNCs, and enhances innovation and competitiveness (Mizuho, 2017; Erh, 2023).

  In addition, the government promotes technology diffusion and economic growth by providing tax incentives, grants and low-interest loans to local firms for ICT initiatives (Verma et al, 2023). Public-private partnerships, particularly co-investment, contribute to reducing the financial risks associated with the introduction of new technologies and provide cost savings and support to SMEs (Erh, 2023). The education sector has benefited notably from these financial incentives, with initiatives such as "Schools of the Future" receiving significant funding to integrate ICT into the curriculum (Wu et al., 2023). Overall, these partnerships and evidence suggests that incentives promote ICT adoption and economic growth (Pradhan et al., 2017; Verma et al., 2023).

4.3 Outcomes

Korea and Singapore have established themselves as prominent leaders in ICT development. Both countries have adopted strong government-led policies to promote ICT growth, enhancing market size, workforce skills, and international competitiveness. This section examines the growth and performance of government industrial policies for ICT development in Korea and Singapore. To examine the economic impact, it uses quantitative data on changes in market size, ICT diffusion, ICT workforce, and global rankings.

- **Market Size Transition**

  The availability of indicators and statistical data demonstrating the impact of Information and Communication Technology (ICT) on economic development has been limited. Consequently, it has not been easy to find data showing the ICT growth achieved by South Korea and Singapore since the 1980s. Upon reflection, it seems challenging to illustrate the ICT performance in the markets of both countries using economic indicators. ICT encompasses a wide range of products, from computers to artificial intelligence, and its applications extend across various industrial sectors. Therefore, quantifying the contribution of ICT within commonly used economic indicators such as GDP is inherently difficult. This difficulty also implies that it is challenging to compare the economic scale of ICT in both countries using equivalent statistical data.

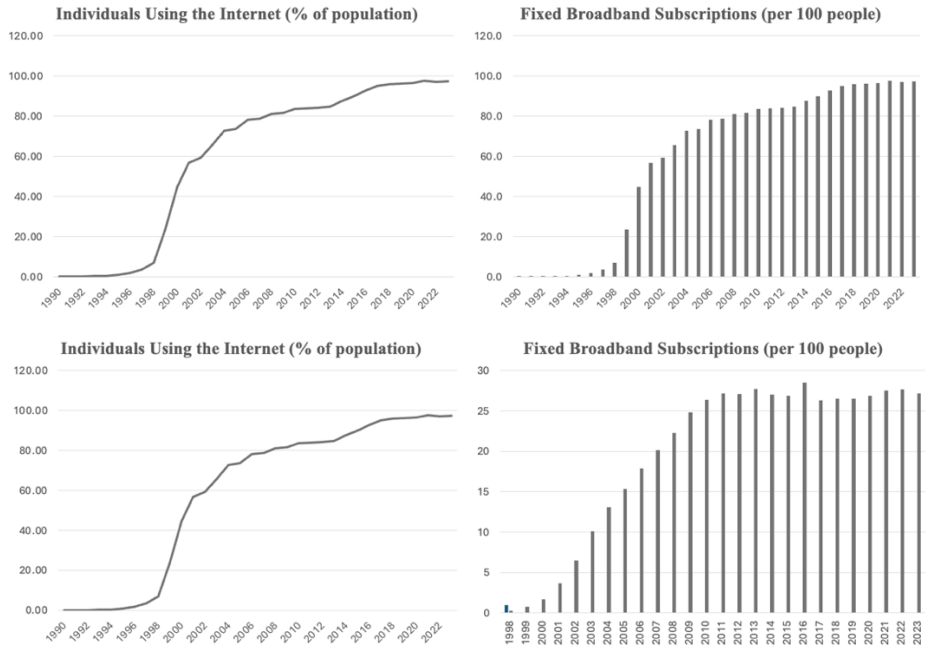
  Instead, this analysis will focus on two key aspects: the global presence of Samsung as a representative of the ICT industry in Korea and Singapore's strategic role as a regional hub for attracting foreign companies. Samsung, one of the leading chaebols in Korea, operates across multiple sectors, including electronics, heavy industry, finance, biotechnology, and telecommunications infrastructure. As one of the world's largest electronics manufacturers, Samsung develops a diverse range of products, including smartphones, semiconductors, and home appliances. Its significant influence in the smartphone market, where it has maintained the top position in global market share (sell-in) from 2016 to the present (Q2 in 2024) (IDC, 2024), underscores its broad economic impact on the ICT sector.

  On the other hand, the entry of major global ICT companies into Singapore highlights its recognition as a leading nation in the ICT field. While Singapore does not have a prominent ICT company such as Samsung in Korea, it hosts regional offices for MNCs such as Google and Facebook (Singapore EDB, n.d.). The government's proactive policies to attract international businesses have led to the influx of numerous international ICT companies, bringing technology and expertise into the country while diversifying the market and fostering competition. This competition encourages the development of better services and products, contributing to the overall enhancement of Singapore's ICT landscape (Mizuho, 2017; Erh, 2023). In fact, Singapore has not only survived in a competitive global economy due to the increased competitiveness from foreign company participation but has also emerged as a significant player empowered by international competitiveness.

- **ICT Diffusion**

  The following data from the World Bank illustrates the spread of Information and Communication Technology (ICT) through internet penetration rates. While both South Korea and Singapore began to focus on developing their ICT industries in earnest around the 1980s, the chart 4.3 below indicates that the effects of these policies became evident only after the 1990s. In both countries, the data reveals that the Internet penetration rate has consistently increased over the years. This result confirms that the diffusion of these industrial policies has been successful.

Figure 4.2 Internet access in Korea (above) and Singapore (Below)



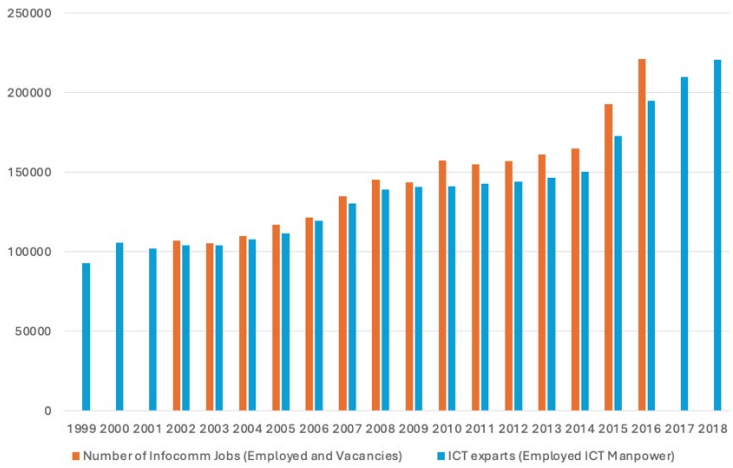
Source; World Bank

From 1995 to 2003, the percentage of South Koreans owning mobile phones increased nearly 20 times to 70%, while the proportion of internet users surged by 75 times to 60%. Similarly, both countries have become global leaders in broadband internet subscriptions (World Bank). In 1975, only 3% of South Koreans owned a telephone (Kim, 2012). However, reforms in the ICT infrastructure sector have significantly improved ICT penetration rates. Interestingly, despite differences in population size and land area, both countries exhibit a common trend in the increase of internet penetration, particularly evident in individual internet usage rates.

- **ICT Human Resource**

  As illustrated in the figure (4.4) below, the number of ICT-related occupations and professionals in Singapore has increased over the years, according to the Singapore Government Statistics Office. Of particular note is the fact that Singapore has been able to effectively train the required professionals to meet the increasing demand for the ICT profession.

Figure 3.4 The number of ICT related jobs and experts in Singapore



Source; data.gov.sg (Singapore Open data portal operated by a state agency) https://data.gov.sg/

On the other hand, it is difficult to ascertain the exact number of ICT-related occupations and professionals in Korea, but a report on the shortage of ICT human resource exist (Japan Science and Technology Agency, 2023). The fourth industrial revolution era is fully underway, and the ICT human resource's shortage continues, while at this moment in Korea, businesses, government and universities are striving to foster human resource development together. Althoush the number of human resources trained each year is steadly increasing, the lack of it has not improved much (ibid). One factor contributinf to this problem might by the aging society and the laxk of effective utilization of the existing workforce, especially women, in educational policy.

Koea's educational society is know as high academic competitveness, where students tend to purse higher education through rigorous exam competition drom a youger age. Singapore's education sytem, meanwhile, is base on a meritocracym offering students with educational pathways according to individual ability. This ensures that even those who fail to excel are provided with education and future professional opportunities appropriate to their professional and personal level (Iwasaki, 2018). In this context, while Singapore emphasizes the effective use of ICT skills to achieve human resource development, Korea may face challenges in this regard.

- **Global Ranking**

  South Korea and Singapore have shown high performance in ICT, as evidenced by their high rankings in various global ICT indices, reflecting their commitment to technological innovation and infrastructure development (see table 4.3 below).

Table 4.3 Global ICT ranking

Korea

(Evaluation organization) Index name	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
(IMD) world digital competitiveness ranking																	10	8	12	8	6	
(WIPO) Global Innovation Index																		10	5	6	10	6
(UN) E-government knowledgebase	13	5	5			6		1		1		1		3		3		2		3		4

Singapore

(Evaluation organization) Index name	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
(IMD) world digital competitiveness ranking																	2	2	5	4	3	
(WIPO) Global Innovation Index																		8	8	7	5	4
(UN) E-government knowledgebase	12	8	7			23		11		10		3		4		7		11		12		3

Sources: IMD[13], WIPO[14], UN[15]

There are other noteworthy indicators besides those in the chart: the IDI and the NRI. The ICT development Index (IDI) is an index is an index developed by the International Telecommunication Union (ITU) to assess the extent of ICT diffusion and use, and the social and economic development facilitated by ICTs. According to 2022 IDI ranking, Korea was in 18th place and Singapore is 5th place. Another related indicator is the Networked Readiness Index (NRI[16]), which assesses the adoption, use, and diffusion of ICTs. NRI provides a comprehensive assessment of the technology sector across three categories: access, content, and new technologies. Korea ranked 23rd in access, 30th in content, and 8th in new technology, indicating that the country is particularly strong in new technology development. In contrast, Singapore achieves 2nd place in access, 13th in content, and 2nd in new technology, suggesting a more comprehensive approach to technology development compared to Korea. The different assessments of technology specialization and diffusion between the two countries can be attributed to their differing economic strategies for ICT. Korea focuses on establishing global ICT leadership by spreading ICT innovation around the world, while Singapore is positioned as a digital hub in Southeast Asia, attracting global ICT investment and talent. These strategic differences lead to different assessments of ICT development at the national level.

[13] The index, developed by the International Institute for Management Development (IMD), annually examines and ranks the state's relative competitiveness with respect to digital technology. The ranking indicates degree to economic growth and social development using digital technology, and measure to what extent businesses and governments utilize digital technology, as well as their technological and future-oriented capabilities.

[14] The index, developed by the World Intellectual Property Organization (WIPO), compares the innovation capacity around the world. The index assesses how effectively countries promote innovation and to what extent it contributes to economic growth, technological development, and social progress.

[15] platform developed by the UN that collects and analyzes information on e-government in various countries and publishes it as a database. It is an initiative of the United Nations Department of Economic and Social Affair (UNDESA) and is used to assess government's adoption of electronic public services and online government services.

[16] NRI has been provided by the World Economic Forum (WEF) as part of its Global Information Technology report since 2002, but since 2019 it has been administrated by Portulans Institute.

Chapter 5 Discussion

This chapter organizes the findings and results obtained in Chapter 4 and clearly articulates the relationships among them. These relationships are examined in light of the analytical framework to determine how the research questions can be answered and how new insights can be derived. Through this process, this study answers the research questions and present the implications of this research.

5.1 Similarities and Difference

The political evolution of Korea and Singapore since the 1980s has been different, but both have taken different approaches to liberalization. Korean democratic evolution has led to the adoption of NPM techniques within existing competent bureaucratic system. This transition is in line with the country's transition from the development state model, while exposing issues such as political corruption. Conversely, Singapore, under the ruling PAP, has carefully integrated liberalization within a soft authoritarian framework, primarily to support economic growth rather than democracy. Singapore's introduction of NPM similarly promotes efficiency, but does not challenge the political control of the state.

Economically, both states have adopted a hybrid system that blends market principles with government intervention, encouraging enterprise autonomy within a state-supervised framework. Korea, although democratized, maintains an interventionist stance influenced by the legacy of the development state and has adopted a neoliberal approach to competitiveness. Singapore, meanwhile, maintains a stable balance between liberalism and interventionism, prioritizing sustained economic growth and political stability. Both states have adopted state initiative in science and technology, particularly in ICT, since the 1980s, and have lessened direct state control and emphasized cooperation with business.

In terms of government-business relations, Korea and Singapore have developed a more symbiotic cooperation, but there are differences in the way of state involvement in the growth of businesses. There is less of power gap and more symbiotic cooperation between the Korea state and chaebols than before. This is because the chaebols have grown to the point where they are powerful economic players, with strong support from governments in the past and increased competitiveness in the international market, enabling the chaebols to gain a great deal of autonomy. The state maintains a cooperative relationship with chaebols within a framework consistent with national goals, but monitors the growing economic power of the chaebols to ensure that they do not monopolies the market. Singapore, contrastingly, has a strategic, autonomous and symbiotic relationship between the state and the GLCs. There is a strong commitment to growth strategies with the GLCs, although the government generally ensures autonomous management to foster international competitiveness. The relationship between governments and businesses in both countries is similar in that they have a symbiotic and strategic relationship in growth strategies, but there are differences in the degree of state involvement in the growth of companies. The relationship between governments and selected companies in both countries is similar in that they have a symbiotic

and strategic relationship in growth strategies, but there are differences in state responses to businesses in other areas due to the difference in the growing capacity of businesses.

Both states have positioned ICTs as a central pillar of development and utilize the adaptive and strategic policy-making capacity of the government. This top-down, flexible policy-making approach includes policy continuity and responsiveness, which is ICT policies are inherited from one administration to another while responding to the constant technological advance and growing ICT competitiveness in the global economy. Korea's ability to maintain efficient policy implementation in the context of dynamic political change highlights its strong institutional capacity. Additionally, ICT Infrastructure development has been a cornerstone of both countries, which facilitates the diffusion of ICT technologies and enables risk-sharing between the public and private sectors. Financial incentives and public-private partnerships have also facilitated investment in ICTs and encouraged innovation and economic growth through cooperation. Essentially, both states intervene in the market to attain strategic ICT goals through individual foundational policies, although the intervention is minimal to ensure business autonomy. In fact, Lee (2021) states that Korea's ICT success is attributed to presidential leadership, investment in ICT human resources and inter-ministerial cooperation supported by a socio-cultural focus on education. Meanwhile, Erh (2023) analyzes Singaporean policy success stems from pre-implementation research, cooperation with MNCs and flexible policymaking to adapt to emerging needs (Erh, 2023). With this approach, both countries have established themselves as leaders in ICT development and demonstrate a distinctive but effective strategy of blending state influence with market dynamics. The following is a summary of the similarities and differences in state intervention under different political regime based on the analyses.

Similarities

- **Efficient and Competent Driven Bureaucracy**: Both country adopt a bureaucratic system that combines meritocracy and New Public Management (NPM).
- **Hybrid system**: Both states embody a hybrid system that combines both market and non-market features, wherein the state leverages its enhanced capabilities to improve the efficiency of the market system.
- **Strong State Leadership**: Both countries have identified the ICT sector as an important pillar of national development and have demonstrated leadership in formulating and implementing policies led by their governments.
- **Efficient management by competent bureaucrats**: Bureaucrats are capable of developing plans to achieve national goals, allocate resources to the right places, and provide infrastructure effectively. This is also due to the fact that the bureaucracies in both countries are competence-based and incorporate NPM methods.
- **Top-down policy making and implementation capacity**: A top-down policy decision-making structure has been adopted to ensure rapid implementation of policies, and a mechanism has been established for government policies to permeate the private sector.

- **Emphasis on ICT infrastructure development**: Infrastructure development is at the center of both countries' policies as the foundation for supporting the diffusion of ICT technology. This contributes to the development of new technologies and the promotion of industrial policies.
- **Risk sharing and promotion of public-private investment**: The government and the private sector share risks and make large-scale investments to promote the development of new technologies. It also encourages companies to invest in ICT through financial incentives and subsidies.
- **Emphasizing the balance between the market and the state**: Both countries balance the state's economic goals and the interests of businesses by respecting the business autonomy as prime economic actors while providing necessary government intervention. Intervention is increased for policy implementation and dissemination, while intervention is gradually reduced for further profit generation thereafter (see Table 5.1.1).
- **Strategic and symbiotic partnership**: the government has a symbiotic cooperation with businesses to promote growth strategies.

Table 5.1 The state's involvement in the market

Government Role	Public-Private Cooperation	Market Role
• Provision of vision and its continuous and evolving ICT plan coming from competent bureaucracy with embedded autonomy. • A whole of government coordinated approach for ICT development. • Provision of the basic ICT infrastructure and the support to implement policies. • Provision of further development direction and basis for new innovation whenever it is needed.	• They share the risk to develop infrastructure to fill the gap of the private sector capacity and facilitate ICT development. • They implement policies and expand the diffusion of ICTs.	• Governments gradually reduce their involvement in the market once the policy has reached a certain extent to ensure the business autonomy and to increase the efficiency of the economy and maximize profits.

Differences

- **Political liberalization**
  - Politics in Korea is characterized as gradual democratization.
  - Singapore politics is characterized as calibrated liberalization with soft authoritarianism.

- **Linkage between Politics and Economic Policy**
    - Korea's economic policy is linked to the transformation of the bureaucracy influenced by democratization, and political liberalization is reflected in the economic system.
    - In Singapore, on the other hand, there has been no huge political liberalization, and political and economic policies are associated with economic growth. While there is increasing involvement of the private sector in economic policy, it is unrelated to the move toward democratization.
- **Relationship between the state and business**
    - In Korea, the government maintains an interdependent cooperative relationship with chaebols through economic strategies. On the other hand, as chaebols have grown to become major economic actors, they now have more autonomy, and the government continues to cooperate with them while monitoring their economic influence.
    - In Singapore, while the government maintains a strong relationship with the GLCs to promote its economic growth strategy, the GLCs operate economically with autonomy since GLCs are operated more similarly to private sector. Singapore's government intervention is based on a cohesive relationship with the GLCs, to the extent that it does not undermine the state's ability to control them.
- **Strategic Focus with International Business**
    - Korea has strengths in hardware product development, such as smartphones and telecommunications equipment, and has an outward-oriented strategy to export these products to foreign markets.
    - Singapore has strengths in the services sector, such as ICT services, software development, and data center operations, and has an inward-oriented strategy that actively attracts companies from outside economies due to its small economy.

5.2 Connection with Framework

The above findings reveal that Korea and Singapore have similar political characteristics in terms of an efficient and competent bureaucracy, a mixture of non-market and market approaches, and symbiotic cooperation between state and business, despite their different political systems and tolerance of freedom. Also, similarities were found in terms of state intervention, with ICTs being identified as a key area of national growth and the government recognizing the need to play a leading role, while skillfully using a balance between intervention and non-intervention for the sake of growth. Both state intervention mainly originate from the recognition since the late 1980s that development of the ICT sector has been essential for enhancing international competitiveness and sustaining economic growth. Consequently, both governments deemed the need for proactive intervention in the innovative and highly uncertain ICT sector and strategically established cooperative frameworks with

businesses to promote nationwide ICT development. Initially, both governments articulated a clear vision for ICT advancement and formulated and implemented growth strategies by the competent and efficiency driven bureaucrats. Thanks to the concerted efforts of capable bureaucrats, the ICT policies have been sustained through changes in administration, while refined in the dynamics of constant science and technologies progress and the growing the ICT competitiveness in global economy. The governments initiated their efforts by focusing on e-government initiatives, thereby laying the groundwork for national ICT infrastructure. At the same time, they established a foundation for development through investments in R&D and ICT infrastructure. Additionally, to cope with the lack of the private sector's resources and accelerate national ICT development, the governments have strengthened public-private partnerships and provided financial support through incentives and subsidies to encourage the development of new technologies and the integration of ICT into existing businesses. The state's ICT investment through public-private partnership not only compensates for the lack of private sector capacity and foster the ICT diffusion, but also to pursues the national interests. Generally, the private sector pursues short-term returns and has insufficient capacity to consider highly uncertain and innovative areas. The state, in contrast, are responsible for foreseeing national interests and considering long-term returns. Thus, while policies are implemented in a top-down manner, collaboration with the private sector is emphasized to fill marginal gaps in the private sector considering national interests, and ensure widespread ICT adoption. Later, as private sector resource shortages are addressed and the execution capacity of policies improves, the government gradually reduces its involvement in the market. This shift occurs as the government completes the establishment of an environment conducive to autonomous development for businesses, encouraging them to pursue existing profit opportunities. However, when advancements in science and technology necessitate the introduction of new technologies, the government increases the interfering again, ultimately following a cycle of gradually reducing intervention.

Evans (1995) stresses that the importance of balancing the state policy autonomy with close relationship to society, particularly industry, through his concept of "Embedded Autonomy." This balance allows the state to maintain independent policy-making capabilities without being captured by specific interest groups, thereby facilitating the effective implementation of industrial policies that contribute to economic development (ibid). Applying this concept, both Korea and Singapore exhibit political structures that enable the state to maintain strong economic leadership while allowing for autonomous activities among businesses. Both countries possess efficient and capable bureaucracies that enable rapid and effective policy execution in the ICT sector through a top-down approach. At the same time, the governments build symbiotic cooperation with a wide range of the private sector, including SMEs, while allowing some autonomy to the private sector. Theses bureaucracies of government autonomy and social embeddedness are in accord with Evans's assertation of an effective relationship between state and business. In Korea, the increasing growth power of chaebols has led to enhanced their business autonomy and state oversight, yet bureaucrats and chaebols remain committed to growth strategies for national objectives in the ICT industry. Similarly, Singapore's government collaborates with GLCs to create a foundation for ICT industry growth, ensuring that GLCs maintain competitiveness in the market while aligning with national goals. Thus, both countries have established a framework under

embedded autonomy that promotes mutual development between the state and businesses. This framework reflects a significant alignment with Evans' emphasis on maintaining autonomy in policymaking while fostering close relationships with the private sector to implement long-term development strategies. However, existing interpretations of Evans' work inadequately explain how growing capacity of the private sector, especially chaebols, reflect the embedded autonomy of the government. These cases indicate that as private sector grow stronger, the state collaborates with a broader range of private firms, expanding their participation in policymaking.

Mazzucato (2011) introduces the concept of "the Entrepreneurial State," and asserts that the state could actively invest in high-risk and uncertainty innovative fields, not merely acting as a regulator or correcting market failures. She argues continuously that the state plays a crucial role in driving economic growth by investing in areas often avoided by the private sector. While the private sector tends to focus on short-term gains, the state considers lingterm benefits and has the capacity to build a foundation for R&D. Concurrently, she emphasizes the need for mechanisms to guarantee returns from government investments, advocating that the state should not only act as a funder but also actively set the direction and goals for technological development (ibid). Based on the framework of 'the Entrepreneurial State', both Korea and Singapore have established systems in the ICT sector where the state assumes initial risks to invest in innovative technologies, allowing the private sector to leverage these outcomes. In fact, both countries view the ICT sector as a growth engine, making substantial national investments in R&D and infrastructure. This reflects a divergence in role and behavior, as the private sector typically faces resource constraints and expects short-term returns, while the state invests with consideration for national interests and long-term returns. The government encourages the private sector's adoption of developed ICT infrastructure through state's leading risk taking, thereby promoting ICT development. This division of roles—where the government bears initial risks and the private sector capitalizes on the results—is facilitated by public-private partnerships, accelerating ICT innovation. Once the government has established the foundational growth of the ICT sector, it gradually reduces its market involvement, entrusting further growth to the businesses which are key players in the economy. The governments' initial investment in ICT growth and market intervention then not only provides the growth foundation, but also offers new business, growth opportunities, sand new area to explore further to the private sector. This is coherent with her view that government intervention in innovation strategies open the door for new business. Ultimately it results in returns for the government in the form of economic benefits and enhanced competitiveness in the international ICT landscape. In this context, both countries' approaches to the ICT sector align with the framework of the entrepreneurial state. However, while Mazzucato insists on the initial burden of the state in leading innovation and growth strategies, in Korea, powerful chaebols are increasingly taking on responsibilities that were previously expected from the government, such as initial research and development and human resource development. This shift implies that the government's role as a promoter and investor in innovation might be diminishing, depending on the capacity of the private sector. This might rase the question of whether the state need to intervene in the market to the same extent as before in the context of the growing capacity of the private sector. In the light of that, it is essential to elaborate on the role of both the state and the

public sector in innovation, considering the dynamics of market forces and private-sector capacities. Nevertheless, it is important to remind that the state is a governor who can consider the overall balance, and that the nature of the government behavior differ from that of the private sector in that it has to act in the collective interest as the highest authority in the country.

Chapter 6 Conclusion

This study examines the factors that led Korea and Singapore to achieve similar economic outcomes in the ICT sector, despite their different political paths. It confirms that both have similar political systems and state interventions despite differences in political regimes and degree of freedom. This means that they share similar political characteristics in terms of an efficient and competent bureaucracy, a mixture of nonmarket and market approaches, and symbiotic cooperation between the state and businesses. They also have common state interventions that position ICT as a key sector of national growth and promote the development of the ICT sector, recognizing the need for the government's leading play role, while skillfully using a balance between intervention and nonintervention for the sake of growth. It follows that, many political features are common, despite different political regimes and tolerance of freedom, which influence the similarity of state intervention in ICT development and generate economic benefits in the ICT sector. Also, these common state element in ICT development reinforces the relevance of embedded autonomy and the entrepreneurial state, which emphasizes the balance with the private sector while stressing state autonomy and a leading role.

Korea and Singapore set effective and national interest-oriented policies for economic growth with efficient and competent bureaucracies, while the state developed a symbiotic relationship with businesses with respect for their autonomy, which enhanced the effectiveness of the policies. Simultaneously, to foster economic growth in the ICT sector, an innovative but uncertain sector, the government has taken initial risks and intervened in the market to provide the basis and opportunities to support further private sector growth, but then transitioned to non-intervention, leaving growth to the private sector without distorting an effective market driven economy. This demonstrates that both states has an embedded autonomy in shaping the economy; autonomy that is not distorted by particular interests, and cooperative relationship between the state and the private sector. Not only that, but the state's active promotion of innovation in shaping economic growth demonstrates the entrepreneurial nature of the state in both countries. The combination of these embedded autonomous and entrepreneurial state is evidenced in both states. Moreover, the coincidence of the political characteristics of the two countries also affects ICT policies, where common features can also be observed.

Both states have recognized the importance of ICT industry development as a driver of economic growth and have implemented government-led strategic interventions. These interventions include establishing a clear vision and growth strategy by an efficient and competent bureaucratic apparatus, as well as risk-sharing through financial support and public-private partnerships. Policies are formulated and implemented by competent and efficiency driven bureaucracies, and it ensured that the ICT-centered growth strategy continues even after changes of government, which allowed for continuous policy improvement and sustainable development. Simultaneously, governments play a complementary role by understanding the risks and capacity limitations that the private sector confronts by demonstrating leadership that considers national interests. In additional, financial support through public-private partnerships, incentives, and subsidies establishes a cooperative framework between

the state and enterprises, facilitating an environment conducive to technological innovation while addressing the private sector's capacity constraints and enhancing policy implementation effectiveness. As development becomes consolidated in society, the state gradually reduces its involvement in the market, leaving key economic actors free to operate within existing market principles. However, science and technologies, including ICT, is subject to constant technological innovation and the competitiveness of the ICT sector in the global economy changes accordingly. The constant technological change and lack of permanent guarantees of its development stimulate the adaptability and improvement of government growth strategies. In this respect, governments continue to conduct directive, interventionist policies in the market. Yet the state take a non-interventionist approach when their strategies mature. In this way, the government growth strategies in the innovation sector are repeatedly interventionist and non-interventionist. This implies that strong government leadership and capacity to formulate and implement policies, combined with a balanced approach of intervention and non-intervention in the market, has enabled inclusive ICT development.

Accordingly, the characteristics of the politics of both countries in the development of the ICT sector emphasize the validity of 'embedded autonomy' and 'entrepreneurial state'. Both countries have retained these political qualifications, which have enabled to provide policy leadership in the ICT sector and implement important infrastructure development and R&D interventions, while creating a framework that allows for the autonomous growth of the private sector. In this respect, Korea and Singapore can be analyzed as "*the Entrepreneurial states with embedded autonomy*" in the context of ICT development. This feature of the entrepreneurial state with embedded autonomy provides a clear answer to the question of why different political paths lead to homogeneous economic outcomes. Namely, despite different political regimes and degrees of freedom, both countries share common political feature of the Entrepreneurial states with embedded autonomy, which also influence homogeneous state policy interventions and create similar economic outcomes in ICT sector development.

The study results suggest that the difference in political paths of its regime and embrace of freedom degree is less important in promoting national growth. Rather it implies that the state capacity to play a leading role in growth strategy, to design and implement the strategy considering long-term benefit of whole state, and to strike balance between the intervention and non-intervention is matter. The right combination of these embedded autonomy and entrepreneurial state roles (the Entrepreneurial State with embedded autonomy) enables effective economic growth. On the other hand, these frameworks need to re-examine the role of the state under the circumstance of the dynamic growth of the private sector, due to the changing impact of the growing private sector on state-led development in modern era.

References

Acemoglu, D. and Robinson, J.A. (2012) *Why nations fail: the origins of power, prosperity, and poverty*. New York: Crown Publishing.

Acemoglu, D. et al. (2018) 'Democracy does cause growth', *Journal of Political Economy*, 127(1), pp. 47–100.

Alesina, A. and Perotti, R. (1994) 'The Political Economy of Growth: A Critical Survey of the Recent literature', *The World Bank Economic Review*, 8(3), pp. 351–371.

Amsden, A.H. (1989) *Asia's next giant: South Korea and late industrialization*. Oxford: Oxford University Press.

Beeson, M. (2004) *The rise and fall (?) of the developmental state*. Available at: https://rrojasdatabank.info/beeson04.pdf (Accessed: 22 October 2024).

Bloom, D.E. and Finlay, J.E. (2009) 'Demographic change and economic growth in Asia', *Asian Economic Policy Review*, 4(1), pp. 45–64.

Chang, K.-S. (2019) *Developmental liberalism in South Korea: Formation, degeneration, and transnationalization*. London: Palgrave Macmillan.

Chang, P. (2017) 'The Candlelight Movement in South Korea: A Case of Democratic Consolidation', *Asian Survey*, 57(5), pp. 777-799.

Chatham House (2022) *South Korea's democratic evolution*. Available at: https://www.chathamhouse.org/2022/07/contested-politics-south-korea/2-south-koreas-democratic-evolution (Accessed: 14 September 2024).

Choi, J.J. (2010) 'Democratic consolidation in South Korea and Taiwan: The role of social capital', *Asian Perspective*, 34(2), pp. 217-238.

Choi, Y. (2023) *South Korea's secret for growth? Keep manufacturing*. GovInsider. Available at: https://govinsider.asia/intl-en/article/south-koreas-secret-for-growth-keep-manufacturing (Accessed: 28 October 2024).

Chong, A. (2007) *Singapore's political economy, 1997–2007: strategizing economic assurance for globalization*. *Asian Survey*, 47(6), pp. 952-976.

Conteh, C. (2009) 'Network governance of private sector development policy implementation in Singapore', *Asian Journal of Political Science*, 17(1), pp. 71-88.

Cumings, B. (2005) *Korea's place in the sun: a modern history*. New York: WW Norton & Company.

Diamond, L. and Shin, D.C. (2014) *Institutional Reform and Democratic Consolidation in Korea*. Stanford: Hoover Institution Press.

Edelman Global Advisor (2024) *Five facts to know: Singapore's new Prime Minister, Lawrence Wong*. Available at: https://www.edelmanglobaladvisory.com/insights/five-facts-know-singapores-new-prime-minister-lawrence-wong.

Erh, J. (2023) 'Singapore's digital transformation journey', *Journal of Southeast Asian Economies*, 40(1), pp. 4–31.

Evans, P. (1995) *Embedded autonomy: states and industrial transformation*. Princeton: Princeton University Press.

Frank, A.G. (1967) *Capitalism and underdevelopment in Latin America*. New York: Monthly Review Press.

Freedom House (2024a) 'Freedom in the World 2024: Singapore', available at: https://freedomhouse.org/country/singapore/freedom-world/2024 (Accessed: 20 May 2024).

Freedom House (2024b) 'Freedom in the World 2024: South Korea', available at: https://freedomhouse.org/country/south-korea/freedom-world/2024 (Accessed: 20 May 2024).

Friedman, M. (1962) *Capitalism and freedom*. Chicago: University of Chicago Press.

Greener, J. and Yeo, E. (2022) 'Reproduction, discipline, inequality: critiquing East-Asian developmentalism through a strategic-relational examination of Singapore's central provident fund', *Global Social Policy*, 22(3), pp. 483-502.
Hamilton-Hart, N. (2000) 'The Singapore state revisited', *The Pacific Review*, 13(2), pp. 195–216.
Hahm, C. (2018) 'South Korea's Impeachment Crisis: The Role of Law in a Democracy', *Journal of Asian Law*, 33(2), pp. 147-160.
Hayek, F.A. (1944) *The road to serfdom*. London: Routledge.
Henderson, G. (1988) *Korea: the politics of the vortex*. Cambridge: Harvard University Press.
Heracleous, L. (1999) 'Privatisation: Global trends and implications of the Singapore experience', *International Journal of Public Sector Management*, 12(5), pp. 432-444.
Huff, W.G. (1994) *The economic growth of Singapore: trade and development in the twentieth century*. Cambridge: Cambridge University Press.
Iwasaki, I. (2018) *Narrative: The History of Singapore: 200 Years of an Elite Developmentalist State*. 3rd edn. Chuko Shinsho.
Johnson, C. (1982) *MITI and the Japanese miracle: the growth of industrial policy, 1925-1975*. Stanford: Stanford University Press.
Johnson, C. (1999) 'The Developmental State: Odyssey of a Concept', in Woo-Cumings, M. (ed.) *The Developmental State*. Ithaca: Cornell University Press, pp. 32–60.
Keenan, M. (2012) 'Moving to the Innovation Frontier: Lessons from the OECD Review of Korean Innovation Policy', in Mahlich, J. and Pascha, W. (eds.) *Korean Science and Technology in an International Perspective*. Heidelberg: Physica, pp. 27–44.
Keynes, J.M. (1936) *The general theory of employment, interest, and money*. London: Macmillan.
Kim, E.M. (1997) *Big business, strong state: collusion and conflict in South Korean development, 1960-1990*. Albany: SUNY Press.
Kim, H.K. (2011) 'Authoritarianism and the Politics of Survival in South Korea', *Pacific Affairs*, 84(1), pp. 59-84.
Kim, J. and Park, S. (2020) 'ICT development policies in Korea: from chaebols to startups', *Telecommunications Policy*, 44(2), p. 101836.
Kim, S. and Porteux, J. (2022) 'Explaining the South Korean "miracle"', in *The South Korean Economy*. Agenda Publishing (World Economies), pp. 13–42.
Kim, S.S. (2003) 'Korea's democratization in the Global–Local nexus', in Cambridge University Press eBooks, pp. 3–44.
Kim, Y. (2019) 'The Rise of Candlelight Protest Movements and the Transformation of Korean Democracy', *Journal of Korean Studies*, 24(1), pp. 25-45.
Kim, Y.H. (2016) 'State-Sponsored Violence and Developmental Dictatorship in South Korea: A Critical Assessment of Park Chung-hee's Legacy', *Asian Journal of Comparative Politics*, 1(1), pp. 57-71.
Korea Statistical Information Service (2024) GDP at current prices | IMF DSBB NSDP | IMF DSBB. Available at: https://kostat.go.kr/imfDsbbArcPage.es?mid=a20302010100&page_code=EIDN005 (Accessed: 20 May 2024).
Lam, N.M.K. (2000) 'Government intervention in the economy: a comparative analysis of Singapore and Hong Kong', *Public Administration and Development*, 20(5), pp. 397–421.
Lee, C. (2021) *National Informatization Policy in Korea: a historical reflection and policy implications*. Available at: https://jps.scholasticahq.com/article/21502-national-informatization-policy-in-korea-a-historical-reflection-and-policy-implications.
Lee, H. L. (2010) 'National Day Rally Speech', *Prime Minister's Office Singapore*, [online] Available at: https://www.pmo.gov.sg.

Lee, N. (2018) 'Political Polarization and the Future of Korean Democracy', *Korean Journal of Politics*, 52(1), pp. 105-129.
Leftwich, A. (1995) 'Bringing politics back in: Towards a model of the developmental state', *The Journal of Development Studies*, 31(3), pp. 400–427.
Levitsky, S. and Way, L.A. (2010) *Competitive authoritarianism*. Available at: https://doi.org/10.1017/cbo9780511781353.
Lim, L.Y.C. (1983) 'Singapore's success: The myth of the free market economy', *Asian Survey*, 23(6), pp. 752–764.
Lin, D.C.Y. and Chang, Y. (2021) 'State-Owned Enterprises in Singapore: performance and policy recommendations', in *ADB institute series on development economics*, pp. 275–295.
Low, L. (2002) 'RETHINKING SINGAPORE INC. AND GLCS', *Southeast Asian Affairs *, pp. 282–302.
Mazzucato, M. (2024) 'The inclusive entrepreneurial state: collective wealth creation and distribution', *Oxford Open Economics*, 3(Supplement_1), pp. i1031–i1039.
Mazzucato, M. (2011) 'The entrepreneurial state: overlooking the key role of the state in promoting innovation is one of the biggest mistakes of market fundamental-ism', *Soundings*, (49), 131+, available: https://link-gale-com.eur.idm.oclc.org/apps/doc/A287386193/AONE?u=erasmus&sid=bookmark-AONE&xid=30baa416 [accessed 05 Nov 2024].
Mizuho Financial Group, Inc (2017) *Mizuho FG:MIZUHO Research & Analysis No.12 Special Feature How to capture the growing ASEAN market - Exploring business opportunities brought by diversity and change*. Available at: https://www.mizuho-fg.co.jp/company/activity/onethinktank/vol012/index.html.
Moon, H.J. (2014) *South Korea's Political Development in Comparative Perspective. Korean Journal of Politics*, 49(1), pp. 89-112.
Mutalib, H. (2000) 'Illiberal Democracy and the Future of Opposition in Singapore', *Third World Quarterly*, 21(2), pp. 313-342.
Natarajan, U., Lim, K.Y.T. and Laxman, K. (2021) 'A national vision for information and communication technologies in education: reflections on Singapore's ICT technologies Masterplans', *International Journal of Educational Management*, 35(5), pp. 943–954.
Ooi, C.-S. (2009) *Soft authoritarianism, political pragmatism and cultural policies: Singapore as a city for the arts*. Available at: https://research.cbs.dk/en/publications/soft-authoritarianism-political-pragmatism-and-cultural-policies-.
Ortmann, S. (2009) 'Singapore: The Politics of Inventing National Identity', *Journal of Democracy*, 20(4), pp. 122-136.
Pereira, A. (2005) 'Singapore's regionalization strategy', *Journal of the Asia Pacific Economy*, 10(3), pp. 380–396.
Pirie, I. (2005) 'Better by design: Korea's neoliberal economy', *The Pacific Review*, 18(3), pp. 355–374.
Pradhan, R. P., Arvin, M. B., Nair, M., Bennett, S., & Bahmani, S. (2017) 'ICT-finance-growth nexus: empirical evidence from the next-11 countries', *Cuadernos De Economía*, 40(113), pp. 115-134.
Prakash, P. and Abdullah, W.J. (2022) 'The state prunes the banyan tree: calibrated liberalisation in Singapore', *Australian Journal of International Affairs*, 76(4), pp. 379–397.
Queux, S.L. and Kuah, A.T.H. (2020) '君子 Junzi leadership in Singapore: governance and human capital development', *Journal of Management Development*, 40(5), pp. 389–403.

Rodan, G. (1989) *The political economy of Singapore's industrialization: national state and international capital*. London: Macmillan.
Rodan, G. (2006) 'Singapore: Globalisation, the State and Politics', in Rodan, G., Hewison, K. and Robison, R. (eds.) *The political economy of South-East Asia: markets, power and contestation*. Melbourne: Oxford University Press, pp. 137–169.
Rodrik, D. (2000) 'Institutions for high-quality growth: What they are and how to acquire them', *Studies in Comparative International Development*, 35(3), pp. 3–31.
Rostow, W.W. (1960) *The stages of economic growth: a non-communist manifesto*. Cambridge: Cambridge University Press.
Sam, C. (2010) 'Globalizing partially privatized firms in Singapore: the role of government as a regulator and a shareholder', *Journal of Asian and African Studies*, 45(3), pp. 258-273.
Sandu, B. (2023) The 16 top tech companies in South Korea. https://tms-outsource.com/blog/posts/tech-companies-in-south-korea/.
Schwartz, P. (2010) *The Art of the Long View*. New York: Doubleday.
Shin, D.C. (2017) *Korean Democracy in Crisis*. Cambridge: Cambridge University Press.
Singapore Economic Development Board (2023) *Singapore's tech ecosystem*. Available at: https://www.edb.gov.sg (Accessed: 28 October 2024).
Smith, A. (1776) *An inquiry into the nature and causes of the wealth of nations*. London: W. Strahan and T. Cadell.
Tee, N.P. (2004) 'Innovation and Enterprise in Singapore Schools', *Educational Research for Policy and Practice*, 3(3), pp. 183–198.
Toh, Y. and So, H. J . (2010) 'ICT reform initiatives in Singapore schools: a complexity theory perspective', *Asia Pacific Education Review*, 12(3), pp. 349-357.
Turnbull, C.M. (2009) *A history of modern Singapore, 1819-2005*. Singapore: NUS Press.
Uttam, J. (2012) 'Korea's New Techno-Scientific Strategy: Realigning State, Market and Society to Move Beyond Technological Catch-Up', in Mahlich, J. and Pascha, W. (eds.) *Korean Science and Technology in an International Perspective*. Heidelberg: Physica, pp. 45–67.
Uttam, J. (2019) 'Beyond Neo-liberalism: Analyzing the 'Post-Developmental state' in South Korea', *International Studies*, 56(4), pp. 236–254.
Verma, A., Dandgawhal, P. S., & Giri, A. K. (2023) 'Impact of ICT diffusion and financial development on economic growth in developing countries', *Journal of Economics, Finance and Administrative Science*, 28(55), pp. 27-43.
Wade, R. (1990) *Governing the market: economic theory and the role of government in East Asian industrialization*. Princeton: Princeton University Press.
Wade, R. (2018) *The developmental state: dead or alive?*. Available at: https://eprints.lse.ac.uk/87356/1/Wade_%20Developmental%20State.pdf (Accessed: 22 October 2024).
Wee, L. (2012) 'Neoliberalism and the Regulation of Consumers: Legalizing Casinos in Singapore', *Critical Discourse Studies*, 9(1), pp. 15–27.
Yahya, F. b. (2005) 'State capitalism and government linked companies', *Journal of Asia-Pacific Business*, 6(1), pp. 3-31.
Wu, R., Yang, W., Rifenbark, G. G., & Wu, Q. (2022) 'School and teacher information, communication and technology (ICT) readiness across 57 countries: the alignment optimization method', *Education and Information Technologies*, 28(2), pp. 1273-1297.