

**From a colonial institution to a neoliberal
real estate developer:**

**Comparative analysis of universities in the urban
process in East Asia**

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Abstract

This thesis investigates the question of how East Asian universities have engaged in urban processes as spatially grounded variegated social processes from the colonial era to recent decades by adopting a comparative urbanism approach.

Historically, universities in the US and Europe have been influential urbanisation actors in their hosting cities, having occupied a substantial amount of land. The relationship between a university and its hosting city was often defined as ‘Town and Gown’; that implies an adversarial link, but this traditional relationship has changed. Universities in East Asia have also participated in urbanisation processes in diverse ways since their birth, but the dynamics behind this multi-faceted process has rarely been addressed.

Using research data collected mainly from fieldwork in Singapore and South Korea, including 42 interviews and archival records, this thesis highlights the relationship between universities and cities in East Asia, focusing on three distinctive periods: the colonial, developmental, and postdevelopmental eras. In all these enquiries, land ownership by universities acts as a thread that weaves the diverse facets of the role of universities into different periods.

The findings of this thesis can be summarised as follows: Firstly, colonialism has been influential in the university-urbanisation relationship. During the colonial era, the East Asian university emerged as a symbolic and political institution in the city. Various colonial and local actors surrounded the colonial universities to promote or fight against the ideology of imperialism, which demonstrates the diverse aspects of colonialism in cities of East Asia. Such legacies of colonialism are still found today.

Secondly, the East Asian developmental state is a variegated concept. The university plays an important role in society, but the way in which the university engages with the developmental state has varied across geographies. The developmental state attempted to utilise universities to support rapid economic and urban development, but such efforts were not always successful. This finding challenges the conventional understanding that assumes a homogeneous conceptualisation of the East Asian developmental state.

Lastly, the entrepreneurial character of East Asian universities has become increasingly evident while the presence of the state is still visible. Thus the role of East Asian universities in urban processes has also become more diverse and dynamic in the postdevelopmental state

since the 1990s. While the entrepreneurial university has a long history in East Asia, the globalised and financialised interests are penetrating the university more actively through various urban development projects.

This thesis concludes that there is an emerging need to recognise East Asian universities as land-based institutions playing an influential role in diverse and uneven urban processes. Investigating universities also provides an opportunity to identify linkages between their colonial legacies and contemporary urban processes in East Asia.

Acknowledgement

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Abbreviations

CBD	Central Building District
EDB	(Singapore) Economic Development Board
GDP	Gross domestic product
HDB	(Singapore) Housing & Development Board
HUDC	(Singapore) Housing and Urban Development Company
IAAP	(Singapore) International Academic Advisory Panel
JTC	JTC Corporation (formerly Jurong Town Corporation)
KRW	Korean Won
MIT	Massachusetts Institute of Technology
NTU	(Singapore) Nanyang Technological University
NUS	National University of Singapore
OED	NUS Office of Estate and Development
OMA	(Netherland) Office for Metropolitan Architecture
PAP	(Singapore) People's Action Party
PCUSA	Presbyterian Church in the United States of America
PPP	Public-Private Partnership
S\$	Singapore dollar
SMU	Singapore Management University

SMR	Seoul Metropolitan Region
SUTD	Singapore University of Technology and Design
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNDP	United Nations Development Programme
URA	(Singapore) Urban Redevelopment Authority
USAMGIK	United States Army Military Government in Korea
USFK	United States Forces Korea
USD	US dollar
UTown	NUS University Town
WCU	(Singapore) World Class University Programme

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Chapter 1: Introduction

1.1. Research contexts

1.2. Research questions

1.3. Thesis overview

One day in June 2017, I had a chance to introduce my doctoral research to a geography professor from South Korea visiting London. During the conversation, I complained that there was almost no academic research about academic capitalism or neoliberal universities in Korea, even though most people have recognised these issues as often covered in the media. When I told her that I was trying to explore such issues a little bit in my doctoral thesis, she told me that she agreed on the issue of underrepresentation because the phenomena are quite evident. She continued to tell me that she nevertheless recommended me not to publish any research article about the academic capitalism of the Korean higher education sector unless I had already secured a stable academic position in Korea. It was a casual conversation, but I could see the point that my research might be seen as unfavourable to some, especially to those who have power in the academic system. In fact, the professor's reaction was not surprising to me. By spending several years at a Korean university, I frequently observed hierarchical and political aspects of the university.

My interests in the relationship between the university and the urban process have grown naturally while I was a student in several higher educational institutions. All universities I was studying had conducted major campus expansion and new development projects: At this moment when I am writing this introduction in September 2017, the London School of Economics is conducting the largest capital development project in its history. The University College London revealed its plan to redevelop the nine-hectare Carpenters Estate in the London Borough of Newham in 2012 when I was doing my master's degree. Yonsei University in Seoul, where I spent more than five years, also kept conducting large-scale development projects, including a new satellite campus in Songdo International City, located near Seoul. Such attempts of the universities to expand their territories led me to ask these questions: *how can universities conduct such large-scale development projects? Where did all the money come from?*

My curiosity then grew intense when seeing surrounding events related to these projects. For example, University College London's project to open its new satellite campus in Newham

was suspended due to opposition by the residents and students, but the university has continued to pursue the project in another adjacent site by working with the Greater London Authority using central government funding. I also saw a similar student movement in Yonsei University in the mid-2000s, but the project was realised in the end. Such conflicts between the university and others are often seen in large cities in different parts of the world including Columbia University's Manhattanville Campus development project, and Seoul National University's Siheung Campus project. Such conflicts imply that the university-city relations are multifaceted and need to be investigated carefully considering their historical and geographical conditions.

There have always been attempts to understand an institution by a person belonging to it through self-reflection. One of the most inspiring movements to me was the 'Institutional Critique' that emerged from artists at the end of the 1960s, represented by German-American artist Hans Haacke. The Institutional Critique is an artist's systematic inquiry into the institutional structure, policy and practice of museums and galleries (Marstine, 2017). It challenges the operating logic of museums and galleries under political and ideological interests through self-understanding of the institution in which artists participate (Alberro, 2009). Since the 1980s, institutional critique has expanded its boundaries to locate art in the larger socio-political area and the logic of financial speculation (Marstine, 2017). Of course, there have been attempts to critically understand the university, such as Callinicos (2006), Readings (1996), and Slaughter and Rhoades (2004) as well as the recently emerging Critical University Studies. However, such movements have not yet produced any noticeable changes, even though their works are crucial and timely.

The university was previously considered as a passive actor in its host city as well as in the circuits of capital. However, such recognitions may not be valid in the contemporary world which is dominated by the new economy. The number of universities has dramatically increased in North America and Western Europe in the second half of 20th century. The amount of resources mobilised by universities for investment in the built environment has also

been rapidly increasing. For example, in the case of the UK, where the data is available, there has been a sharper increase of capital investment in properties than an increase of student numbers. In this regard, the influence of universities on cities turns out to be larger than before. Furthermore, the dynamics within host cities have also shifted. The university can be a representative actor in the host city, suggesting that the roles of various actors evolve under the pressure of neoliberal globalisation.

This research aims to understand the spatial development of universities as a part of wider urban processes focusing on the university in East Asia where the higher education sector has expanded rapidly over past decades. It is believed that the East Asian university has been mobilised by the developmental state (Altbach, 2004). Then, after the emergence of the new economy, the university has become favoured as a knowledge and innovation producer, as a vast amount of literature demonstrates (Arbo and Benneworth, 2007). This research points out that there are notable gaps in the literature regarding the roles of the university in the East Asian urbanisation process. Urbanisation in East Asia can be understood as one of the core economic strategies (Shin and Kim, 2015). The university in East Asia also needs to be conceptualised as one of urbanisation actors in the city. In this regard, this research aims to offer understandings of evolving urbanisation processes by investigating universities in South Korea and Singapore using a comparative case study method.

1.1. Research contexts: university and the city

The number of universities in the US has increased from 3,231 in 1980 to 4,599 in 2010, which shows a more than 40 per cent increase in three decades (National Center for Education Statistics, 2014). Wiewel et al. (2007) investigated more than 500 university real-estate development projects in the United States from 1998 to 2005; most of these projects were new construction projects, rather than renovations of existing buildings. Moreover, 37 per cent of

604 institutions were expanding their boundaries at the time of the research. The rapid increase in university expansion projects is not only observed in the United States, but also in other parts of the world. In the United Kingdom, the capital expenditure on university estates in 2011 was 3.6 billion pounds. This sum is 130 per cent larger than the equivalent in 1997, which was around 1 billion pounds (The Higher Education Design Quality Forum, 2013). During the same period, the number of students has increased only by 43 per cent. These case studies suggest investigating spatial development processes of universities and their consequences in the urban environment while urging the needs of developing a theoretical framework to explain such trends (Perry and Wiewel, 2008: 4).

This trend also can be found outside of North America and Western Europe. During the past three decades, universities in East Asia have shown more rapid growth than ones in the West. They have been developing not only quantitatively but also qualitatively: East Asian Universities are the third largest group in world university rankings next to the US and Western Europe (The Times Higher Education, 2013). While universities are experiencing rapid growth, their influence on their host cities is also expanding. The concept of the modern university is derived from Western Europe and was developed in the United States. Then, the development of universities in East Asia ignited from the latter half of the 20th century. It is generally considered that universities in Europe and the United States have long participated in the urbanisation process as a prominent urban growth actor in cities. In this regard, it can be assumed that the development of the East Asian university has also affected the urbanisation mechanism of East Asian cities. Thus, exploring spatial expansion projects of East Asian universities would extend the debate about the roles of the university in the urban process further.

In East Asia, the university has been actively engaging in economic and urban development processes similar to the West. East Asian countries have achieved notable economic growth since the late 1960s. This phenomenon was defined by the World Bank as the 'East Asian Miracle'. In particular, the 'Four Tigers' – South Korea, Singapore, Taiwan, and Hong Kong

– have produced rapid economic growth as well as improved human development (World Bank, 1993). The East Asian economies have been fuelled by the developmental state to achieve national economic development. Industrialisation has been at the centre of government policies to achieve the national goal of achieving and sustaining high levels of economic growth. Those policies include developing technological capabilities, promoting exports, and building the domestic capacity to manufacture a range of intermediate goods (Stiglitz, 1996). The state has also steered the education sector in accordance with industrialisation policies to reach government goals (Marginson, 2011; Seth, 2002). Nevertheless, the higher education sector has not been a primary focus of the state when compared with the primary and secondary education sectors because of the industrial structure of the East Asian economies, which depends on less-advanced industries (Altbach, 2004). This is mainly because such industries require mainly low- and semi-skilled workers rather than highly educated workers.

Urbanisation trends are prominent in East Asia. For example, the share of urban population in South Korea's national population increased from 27.7 per cent in 1960 to 82.9 per cent in 2010 (United Nations, 2012). The investment in the built environment in South Korea accounted for a large share of the GDP in South Korea. In this regard, it could be argued that the built environment has played a crucial role in accelerating economic growth through absorbing surplus from other industries such as manufacturing and heavy industry (Shin, 2009). Even though the higher education sector was relatively small, universities were also important actors in urban development. Thus, the spatial development of universities in East Asia also could be understood as part of the capital accumulation strategies of the state.

The emergence of the new economy in East Asia has also affected the role of the university in the spatialised capital accumulation process in East Asia. Such a transformation is closely related with the introduction of various neoliberal policies in the higher education sector from the 1990s (Im, 2008; Mok and Ong, 2012). Based on Han and Yu (2008) and Takeuchi's (2008) studies about universities in East Asia, the East Asian university is now actively engaged in

urban development by collaborating with the private sector while its development project still has been guided by the state policies.

However, the notion that universities can play a significant role in knowledge and innovation production for their regions and countries has been increasingly questioned, especially in East Asia where it was driven by the state. Castells and Hall (Castells and Hall, 1994: 248) already pointed out this aspect by mentioning that:

[The roles of university as the sources of innovation] need not be identical in every place. University or research institute may provide the basis in one country or region, not in another.

Sohn and Kenney (2007) argue that the role of the university in South Korea still remains to supply high-quality graduates for firms instead of producing knowledge and innovation. This is more evident when comparing East Asian universities with universities in the United States and Europe (Mok, 2012). Wong and Bunnell (2006) demonstrated how the concept of the new economy was mobilised by the state to justify large-scale urban development projects with state rhetoric. In this regard, the new economy led by the university could be just state rhetoric to justify speculative urban development projects in East Asia, just like other rhetoric such as that about 'eco-cities' (Shin, 2017).

Such contexts imply an understanding of the spatial development of universities not only as a part of the knowledge creation and transfer process but also as a part of wider urban processes, which have been a critical part of the economic growth of East Asian countries, but only few studies (e.g. Han and Yu, 2008; Takeuchi, 2008) have addressed the changing roles of the university in urban development in East Asia both before and after the emergence of the new economy in East Asia in the 1990s. In this regard, this thesis aims to provide deeper understandings of the evolving processes of urbanisation in different contexts by investigating the changing roles of the university in the East Asian urbanisation process. This is particularly because the relationship between the university and the state cannot be understood as a one-dimensional relationship wherein the university simply follows the state strategy for the sake

of economic development while the East Asian developmental state was actively promoting rapid industrialisation during the 1970s and 1980s. Such a relationship becomes even more diverse and complicated after the emergence of the knowledge economy and urban entrepreneurialism in East Asia from the 1990s onward.

Such trends suggest that the university's engagement in the built environment needs to be understood in a wider accumulation process. The university is more actively expanding not only technology-related facilities, but also buildings and facilities, including sports and cultural facilities for its own sake (Coffield and Gaither, 1976; Schimmel, 1997). According to Harvey (1978), the built environment, as part of the secondary circuit of capital, is where the surplus value from the primary circuit (basic commodity production and social reproduction of labour) and tertiary circuit (investment in science and technology and social expenditures) of capital is absorbed to enable the continuation of capital accumulation processes. The belief in the university as a major site for knowledge and innovation-producing activities attracted more investment in the university. Such investments are resulted in investments in the built environment.

The widespread belief that the university can bring wealth and innovation is also an influential factor that accelerates the uneven development of cities and regions. In this regard, theories of urban politics are useful to complement more abstract theories of capital circulation. Especially, as Lefebvre (1991) implied, concrete urban processes reflect different modes of production at different development stages of specific moments. By investigating the university as a growth actor in its city, we can have a better understanding about the way in which society works.

These theories mainly focused on the Western context, but there have been several attempts to analyse ongoing phenomena in other areas by using the capital circulation theory. Shin (2009, 2014) investigated the rapid urbanisation of South Korea and China, which has been accelerated by the speculative real estate sector as a result of the active switching of capital between the primary and secondary circuits. Glassman (2001) investigated the Thai economic

crisis of 1996–1997 as well as its relation to other Asian economies by developing the capital circulation theory. He argued that the crisis resulted from intertwined accumulation processes of both domestic and international markets. His study emphasises the importance of expanding Harvey's capital circulation theory to reflect different spatial levels of capital circulation processes. Such studies show that the theory of capital circulation is useful to investigate variegated capital accumulation processes underlying capitalism.

The growth machine theory has important implications for the understanding of East Asian cities in terms of its ideology and discourses, as it refers to the importance of growth coalitions. To create the illusion that the growth will contribute to people's wellbeing is one of the important aspects of the growth machine (Jonas and Wilson, 1999). The idea of creating the illusion coincides with the belief that real estate (re)development activities are considered to indicate the progress of society (Tang, 2008). Such ideas can be a starting point to investigate the urbanisation process in East Asia. In this regard, this research aims to utilise these theories to understanding diverse aspects of the urbanisation processes in East Asia by investigating university-related urban development projects.

Finally, based on these contexts, this thesis will conceptualise the university-urbanisation relationship as diverse and multifaceted processes. There is no commonly used typology to conceptualise the relationship, although historically, the university has engaged with its surrounding environments as 'a university of, not simply in, the city' (Bender, 1998: 18). The university affects the surrounding urban environment in various ways: it directly affects the environment through campus (re)development projects for teaching and research facilities, student and faculty accommodation, and other supporting facilities. It also indirectly affects the environment by attracting supporting services, such as private accommodation, shops, and restaurants. In some cases, it attracts public and private firms, especially knowledge-based ones. Such changes are often led by the university to meet its needs while also being coordinated by city planners or private entities. The university is also increasingly investing

in property development projects elsewhere. Such investment is not a major role for the university, but it cannot be overlooked.

The diverse influences of the university on the urban environment imply that the university-urbanisation relationship is a processual one. Haar (2011: xxv) argued that the university is not a static entity, and 'campus and urban space are in constant negotiation'. Such a claim coincides with the definition of the urban process by David Harvey, who defines the urban process as 'a spatially grounded social process in which a wide range of different actors with quite different objectives and agendas interact through a particular configuration of interlocking spatial practices' (Harvey, 1989: 5). In this regard, this thesis intentionally utilises the term 'urban process' to demonstrate diverse and multifaceted aspects of the university-urbanisation relationship.

1.2. Research questions

This research is based on the initial awareness that only little systematic research exists on the role of the university in the spatial expansion of its host city. The university is recognised as a prominent actor in the new economy and also promotes the expansion of its boundaries under the belief that it can enhance the competitive advantage of its host city. However, how the university is collaborating with the state and other actors in its host city to promote its material goals is still unclear because most literature does not focus on its relation to the urbanisation process but only on economic development. In this regard, there is a strong need to understand the relationship between the university and others within its host city.

Such a need is more evident when looking at East Asia, where the higher education sector has grown rapidly over recent decades. As Perry and Wiewel (2008) argue, the role of the university in the urbanisation process has generally been ignored in academic debate, particularly outside of the United States. Despite extensive literature on the massification of higher education and its changing roles in their economies in East Asia (Altbach, 2004; Lee,

2006; Olds, 2007; Sidhu et al., 2011), the spatial development of universities remains an under-researched topic. Furthermore, while there is an ongoing debate regarding how the East Asian developmental state has been transformed from the late 1990s in earnest due to neoliberal restructuring processes (Hill et al., 2012), how the spatial development of universities in East Asia has been transformed by such transformation of the developmental state is also uncertain. Considering the emerging position of universities in the new economy in East Asia, an understanding of the spatial development of universities in East Asia can offer a critical understanding of the evolving capital accumulation processes in East Asia.

Furthermore, what are the circumstances under which universities expand and how do these circumstances determine the characteristics of university expansion? Not every university is actively participating in its expansion activities. If so, under which circumstances is the university more likely to be engaging in expansion activities? Previous studies mostly focus on investigating a single case, so they cannot provide a sound argument showing the different relationships of universities with their counterparts (see Coffey and Dierwechter, 2005; Han and Yu, 2008; Marcuse and Potter, 2005; Takeuchi, 2008). A comparative perspective can provide an answer to the question of how and why urban development processes are uneven and where such differences come from.

The objective of this thesis is to study emerging urbanisation actors in East Asia focusing on the university to understand evolving urbanisation trends. Therefore, it tackles research gaps identified above by addressing the question: *How and why does the university participate in urban processes in different historical and geographical contexts such as in East Asia where there is a substantial presence of the state?* In order to answer this question, this thesis takes two universities in East Asia as its main objects of study to focus on a specific historical and geographical context of East Asia. In this thesis, their development projects will be conceptualised as part of the global process while, at the same time, being historically and geographically rooted processes. In this manner, my research questions are defined as follows:

- 1) How does the relationship among the university and the state and private sector actors in the urban process have been changed in East Asia?
- 2) What are the emerging spatial development pattern of universities in East Asia, and how do they produce their campuses and affiliated properties?
- 3) How do spatial strategies of universities differ based on different national contexts? Can they offer comparative perspectives on East Asian urbanisation by investigating the uneven process of development?

Overall, based on these research contexts and questions, this research will focus on the following three themes to investigate. Firstly, the historical development of East Asian universities and its relation to the urbanisation process in East Asia will be investigated, focusing on its colonial past. While much literature indicates the university under the (post)developmental state, its colonial past and legacies have been underestimated. In this regard, this thesis will focus on the how the university was established and developed in the (post)colonial city and has affected the urbanisation mechanism. Secondly, the East Asian developmental urbanism will be examined to promote a diverse understanding of the developmental state. How the state actually has worked with different agents on the ground to achieve its economic and social development will be addressed by investigating the university-related urban development projects. Lastly, the entrepreneurial character of East Asian universities will be investigated. The emergence of an entrepreneurial university in the US and other Western countries and its close relation to the built environment are generally recognised. However, how East Asian universities become more entrepreneurial remains unclear, especially its relation to the (post)developmental state. In this regard, this thesis will investigate the relationship between entrepreneurial universities and the urbanisation processes in East Asia.

1.3. Thesis overview

This thesis is divided into eight chapters including this chapter introducing the research background, research gaps and questions, and the objectives of the research.

Chapter Two presents the theoretical framework of this thesis. As briefly elaborated above, based on Harvey's (1978, 1982) capital circulation theory, I aim to locate the university in the circuits of capital by resorting to Harvey's conceptualisation of uneven development and circuits of accumulation, incorporating recent debates on the relationship between the university and the city into the concept. The second part of this chapter then looks into other related theories about the political economy of space such as the growth machine and new urban politics to investigate the relationship between the university and other urbanisation actors. The third part of this chapter focuses on the context of the East Asian developmental state linking it with its colonial past and the current reform. The last part of this chapter conceptualises the roles of East Asian university in the process of urban development based on the discussions in earlier parts of this chapter.

Chapter Three details the methodology I used for the research design and discusses methodological issues. The core methodological idea of this thesis is comparative urbanism. I utilise comparative urbanism not only as a method for this research but also a mode of thought to contribute to expanding the debates of East Asian cities as well as to offer new viewpoints of cities as guided by Robinson (2002, 2016) and McFarlane (2010). The earlier part of this chapter shows how comparative urbanism is beneficial for my research. Then, the case selection processes are introduced. This research mainly investigates two universities: Yonsei University in Seoul, South Korea and the National University of Singapore. How and why these cities and universities have been chosen for a comparative case study is elaborated. The rest of the chapter, then, presents data collection method and qualitative data analysis.

Chapter Four to Seven includes the research findings and discussions. Chapter Four examines East Asian universities in the colonial period and shortly thereafter. The history of East Asian

universities goes back to the colonial era, and their colonial legacies cannot be underestimated because they are essential to understand conditions of the current higher education sector. Moreover, Seoul and Singapore experienced different colonial powers. In this regard, this chapter asks the question how different colonial experiences affected the universities as well as the urban environments in these cities. Findings from this chapter show that the variegated colonialism shaped universities and surrounding urban environments. Such understandings are crucial to understand the development trajectory of the developmental state and the related urban trends.

Chapter Five focuses on the growth of universities under the developmental state. There has been a widespread belief that the East Asian developmental state successfully intervened and mobilised various sectors of society to support economic growth. This chapter challenges this conventional understanding by investigating the higher education sector and the urbanisation strategy of the developmental state. In this regard, this chapter shows that the state's attempt to mobilise the higher education sector was not always successful because of public demands, political issues, and other external pressures. This chapter also shows that colonial legacies are still relevant to the developmental state to determine the success of the state intervention. Such findings show the diverse aspects of the East Asian developmental state.

Chapter Six compares different trajectories of the higher education sector in Korea and Singapore since the 1990s. Knowledge and innovation have emerged as the core ideology in East Asia, and various neoliberal higher education policies were implemented. Such change resulted in rapid growth of the higher education sector and diversified the relationship between the state and the university: the legacies of the developmental state and neoliberal agendas coexist. This chapter investigates how and why this relationship varies and what its consequences are. The major finding is that entrepreneurial universities are emerging and that the importance of the built environment of the university is growing in both countries.

Chapter Seven investigates the deep involvement of universities in real estate projects by examining the two universities as case studies. In the case of Yonsei University, the development of its new satellite campus in Songdo International City was investigated. In case of the National University of Singapore, its major expansion project University Town and Gillman Heights redevelopment project, were examined. The rationale behind these projects is investigated with related contexts. Then, the negotiation process with other stakeholders such as the state is examined. The findings are discussed in relation to the emergence of entrepreneurial universities: both cases clearly show how entrepreneurial interests dominate the university operation, but the drivers and the role of the state in such change vary in the two universities.

Chapter Eight concludes my thesis. It summarises the key findings of the empirical chapters and discusses theoretical and methodological implications. It then discusses contributions of this research to the literature of East Asian urbanisation and comparative urbanism as well as universities in other different historical and geographical contexts. Finally, I look into the limitations of this research and provide suggestions for further research to conclude the thesis.

Chapter 2: Theoretical framework: Locating the East Asian university in the urban process

2.1. The urban university in the capital circuits

- 2.1.1. The university in the process of capital circulation
- 2.1.2. The built environment of the university
- 2.1.3. Financialisation and the university under the urban process

2.2. A political anatomy of universities in cities

- 2.2.1. Questioning the positive role of the university in urban and regional economic development
- 2.2.2. Urban politics and the urban university
- 2.2.3. Globalised cities and the university

2.3. The circuits of capital and the East Asian developmental state

- 2.3.1. The emergence of the developmental state in East Asia
- 2.3.2. Neoliberal reform of the East Asian developmental state
- 2.3.3. The geopolitics of the East Asian developmental state

2.4. Locating the university in East Asian cities

- 2.4.1. The East Asian university under the state's control
- 2.4.2. The nature of the built environment of the university in East Asia
- 2.4.3. The built environment of the university in East Asia under a neoliberalising state

Universities now operate in a much more Darwinian world, where the fit survive and others flounder. – David Harvey (1998: 113)

The neoliberal restructuring of universities has dramatically changed the situation of both staff and students. These changes can be summed up in two words – ‘proletarianisation’ and ‘precarity’. – Alex Callinicos (2006: 24)

It is no doubt that the university is undergoing change: so do its roles in a city, a region, and a country. Cities and regions, in general, have been welcoming the university as a knowledge producer (O’Mara, 2012) which might bring economic growth to them while only a few studies (e.g. Addie et al., 2015) have attempted to critically understand the complex functions of the university. Existing studies, however, have mostly focused on elite universities and global cities in the West. The university is a complicated institution, involving various internal and external shaping forces, different spatial scale, and multiple functions based on historical and geographical conditions. Thus, it can be assumed that universities in the West and universities in East share similar elements but also play different roles given their positions in regional and global economies.

Based on such considerations, this chapter aims to provide a theoretical framework that will guide the research on examining the role of the university in urban processes with a focus on its emerging roles in capital accumulation and urban development. To do so, this chapter first reviews David Harvey’s (1978) capital circulation theory and develops it to locate the university in the wider capital accumulation process as well as emerging modes of accumulation such as globalisation and financialisation. This chapter then investigates various relevant theories that attempt to explain the university and the city. This is followed by a review of the emergence of the developmental state in East Asia and its relation to the process of capital accumulation. This chapter, in the end, conceptualises the roles of university in the urban process in East Asia, which has been an understudied topic despite its emerging presence.

2.1. The urban university in the capital circuits

There are multiple studies attempting to explain the evolution of the university system and the roles of university since the 1970s in relation to globalisation (Hill and Kumar, 2009; Morrow and Torres, 2013), the knowledge economy (Capello et al., 2013b; Martin and Etzkowitz, 2000), and academic capitalism (Clark, 1998; Slaughter and Rhoades, 2004). However, the degree of these changes varies from country to country, since the university's relationship with the state as well as civil societies is diverse in different places. For example, among OECD countries, while the governments of Finland and Norway fund more than 95 per cent of the total higher education sector expenditure, the ones in South Korea, Japan and the US only fund less than 40 per cent (OECD, 2017). Such differences resulting from diverse historical and geographical contexts make it difficult to objectify universities as a research topic. In this regard, this section will utilise the theory of capital circulation to conceptualise the university within the context of capital accumulation.

2.1.1. The university in the process of capital circulation

The university plays a vital role in improving the overall productivity of society. The university is not directly engaged in production but enhances the conditions for producing surplus value in various ways as a social infrastructure, such as promoting research and development and improving the qualities of labour power (Harvey, 1982). It also plays a political role by supporting ideological control of the society. Such roles of the university can be located in the tertiary circuit of capital as categorised by Harvey (1978). He identifies two different kinds of investments in the tertiary circuit: investment in science and technology and investment as a form of social expenditure, such as education, health, and welfare (ibid.). Harvey (1978, 1982) also argued that such investments tend to be made by the state or its agent using the tax on produced surplus value because it requires long-term and large-scale investments and its result is often uncertain. Even though Harvey (1978) paid much less attention to the tertiary circuit in his explanation of capital circuits as pointed out by Tretter (2016), the position of the

university in the circuits of capital requires special attention considering its emerging position in cities and regions.

The political function of the university in a capitalist society will be reviewed in this section before investigating its economic function. As mentioned above, social infrastructures play diverse roles in society. Investments in social infrastructures have been made in order to absorb the inevitable struggles and paradoxes in the accumulation process as a compensatory investment (King, 1989: 458; Soederberg, 2015: 5). They also work for ideological control and the repression of society (Harvey, 1982: 401). Readings (1996) argued that the traditional function of the university was to nurture elite citizens. The university functions to solidify national cultures as a socio-political mission with the support of the state (Readings, 1996; Scott, 2006). One of the recent examples is the US university during the Cold War period. Noam Chomsky (1997) once described how the Massachusetts Institute of Technology was operated with the support of Pentagon: nearly 90 per cent of the academic budget came from the Pentagon in the 1960s. This was not only for science and engineering departments, but also political science department in the university was openly funded by the Central Intelligence Agency (*ibid.*). Several government projects were implemented by social scientists to serve the interests of the state by promoting a pro-American ideology not only in the US but also in the other parts of the world (Simpson, 1998). Such investment of the state is not directly related to production but obviously intended as a stabiliser of society.

The political function of the university does not always work due to its underlying internal contradiction. Social infrastructures need to fulfil different class interests for the legitimisation of the state and the dominant class. The university thus cannot be exclusive to the dominant class but also needs to serve the interest of the working class. Such a concept can be supported by Bourdieu's (1984) theory of social class. He diversified the class structure by introducing other class groups, such as intellectuals, the new bourgeoisie, and the new petite bourgeoisie, which have emerged in capitalist society. They do not hold economic capital but hold social

and cultural forms of capital (ibid.). The university can be considered as one of core institutions where their cultural and social capital is reproduced (Bourdieu, 1986).

This condition of the university means that the space of university can be the centre of organised resistance against the dominant class, such as in the events of May 1968 in Paris and the anti-Vietnam War movement in the US in the 1960s. As Harvey (1982) mentioned, social infrastructures can be a general field of class struggle where different classes project their needs, even though they are mostly funded by the state and the capitalist class. The university is an essential institution to support the social and economic development of capitalist society, but it can result in a legitimation crisis as defined by Habermas (1988).

The economic function of the university also needs to be conceptualised carefully. Capital is channelled to the university for upgrading labour forces and for offering new managerial techniques and technologies as mentioned above. It requires immobile, long-term, and large-scale investments. Even though the university does not produce anything, such investment is necessary for the state and the capitalist class to increase productivity to compete with others. The investment in the university is expected to be compensated eventually by providing means to produce more surplus value. By doing so, the university offers a competitive advantage to its host city and region by attracting production capital (Harvey, 1982: 403). In particular, the function of the university does not wear out like other physical infrastructures. The university thus can produce a geographical concentration of high-quality conditions for increasing surplus value production. Harvey (1989: 147) cited Route 128 and Silicon Valley as examples. This is not always the case because not every university has the capacity to produce such conditions, but such an idea implies that the university can be an important factor in the uneven geographical development of cities and regions. It also suggests that an investigation of the relationship between production and consumption alone cannot explain diverse patterns of urbanisation without considering reproduction.

The university is where diverse capital and revenue investments are circulated. Harvey (1982: 404) argued that the investment in social infrastructures is mainly done by the state as a form of tax, but the form of investment in the university is more diverse because universities' historical and geographical contexts are diverse. As shown above, in some countries, the higher education sector is funded more by private firms, financial institutions, and families. One common form of investment in the university is 'location rent' as defined by Harvey (1982: 403). Private firms share their surplus value with the university on the condition of accessing benefits from the university with higher priority. Harvey (1982: 404) argued that technology and labour are mobile, but this argument can only be partially accepted. In the same book, Harvey (1982: 418) himself admitted that the geographical concentration of capital and accumulation resulted from the collective provision of physical and social infrastructures. Walker (2000) also argued that the immobility of technologically sophisticated labour was due to the existing barriers and accumulated advantages. The university enjoys its monopoly status by offering firms advanced means of production as well as reserve workers an opportunity to increase their future wages. Since the university is expected to increase the overall accumulation of society, the university can utilise fictitious capital, which is money based on future surplus value production. Fictitious capital enables university investment in other circuits of capital, such as the built environment, for further accumulation. The following subsection focuses on the university's investment in the built environment to explore the various roles of the university in its host city and region.

2.1.2. The built environment of the university

Since universities are physically embedded in cities and regions, the built environment of universities needs to be considered. This is particularly because social infrastructures including the university are based locally even though economic and political functions of them cover national, regional, and local scales (Harvey, 1989). In this regard, the university can be one of the noteworthy actors showing how different processes of capitalism have affected the urban

process in relation to a specific historical and geographical context. Investigating different universities and constructing them as a group of specific actors in urban development processes can help investigate the dynamics of capitalism by ‘reflecting daily life as in a mirror’ (Harvey, 1989: 10). To do so, this subsection investigates the peculiarity of conceptualising the built environment of the university in circuits of capital and offers an alternative concept of the built environment of the university. This step is necessary because the theory of capital circulation helps in understanding concrete phenomena of time and space and offers a useful framework for an analysis of the urban process.

The built environment in the circuits of capital plays diverse roles to accommodate and produce surplus value. The built environment is a complicated concept which consists of different elements such as factories, offices, shops, schools, and parks (Harvey, 1978, 1982). It is utilised for various essential activities of society such as production, exchange, circulation, and consumption, which is the distinctive feature of the built environment. It is also characterised by its immobility because it cannot be moved once it is created: it can only be destroyed or become obsolete. Based on Harvey’s (1978) categorisation, the built environment can be divided into structures for consumption and production. The built environment for consumption acts as a physical framework for consumption and reproduction activities including housing, parks, and walkways. The built environment for production is operated as aids for the production process. Factories and offices are examples of this. As Harvey (ibid.) pointed out, the built environment can be defined as neither a homogeneous concept nor as a process, but the built environment can be labelled as part of the secondary circuit of capital to understand the circulation process of capital. The surplus from the primary circuit of capital has been transferred to and invested in fixed capital and consumption funds for absorbing and reproducing the surplus from the primary circuit. This is an important process for maintaining capitalism because it enables the process of capital accumulation to continue, but investment in the built environment is normally a large-scale and long-term process, so there are barriers

for individual capitalists to invest. In this regard, the state and financial institutions mediate this transfer process by utilising fictitious capital and implementing supportive policies (ibid.)

The built environment of the university has unique characteristics: it does not only serve for the reproduction of society but also serves production. Such functions work in a complex way when comparing with other kinds of built environments such as offices, houses, and roads. The unique characteristics of the university suggests that the role of the university and its campus in the urbanisation process needs to be understood beyond its involvement in the tertiary circuit. The university thus needs to be conceptualised as an institution engaged in multiple circuits of capital, which differs from the traditional understanding of the university. It is also considered an ecosystem consisting of its own circuits of capital while interacting with other capitalists in different circuits of capital. In this regard, the built environment of the university should be understood as a multi-faceted process, wherein various levels of actors are competing with and affecting each other, which also greatly influencing the urban environment.

Emerging socio-political changes in society such as flexible accumulation and entrepreneurial cities are also closely related to the changing roles of the built environment of the university in the urban process. Such a phenomenon is closely linked to the emergence of new accumulation strategies in some parts of the world after experiencing the global deflation of 1970s and the dollar deflation in the early 1980s. In this process, the rise of the 'entrepreneurial city' and the increase of inter-urban competition have been observed (Harvey, 1987). The university is now increasingly participating in the primary circuit of capital, which is mobilised by the capitalist class or engaged by itself as an individual capitalist in the urbanisation process (Castells and Hall, 1994; Massey and Wield, 1992; Quintas et al., 1992). The university is also actively engaged in the secondary circuit of capital, which can be defined by the term 'edifice complex,' which describes the university's intention to build more buildings and facilities including sports and cultural facilities for its own sake (Coffield and Gaither, 1976; Schimmel,

1997). The emerging roles of the university after the emergence of flexible accumulation will be conceptualised further in the following subsection.

2.1.3. Financialisation and the university under the urban process

The emergence of more flexible modes of accumulation can be one of rationales to explain the evolving roles of the university. From the 1970s, the flexible mode of accumulation has emerged in some parts of advanced economies represented by flexible labour processes and markets as well as by patterns of consumption (Harvey, 1987). Uneven development between sectors and geographical regions resulting from the emergence of flexible modes of accumulation has produced increasing fiscal constraints and unemployment issues in the US in particular. It forced the restructuring of local governments in the US, and thus local governments have been forced to increase investment and innovation to make their cities more attractive. In this process, the roles of governing bodies and financial institutions have been emphasised (ibid.). The roles of the secondary circuit also have evolved in reaction to the emergence of new accumulation strategies such as mortgage securitisation (Coq-Huelva, 2013; Gotham, 2009). In this regard, this shift helps in understanding the emerging roles of university in cities and regions.

Flexible accumulation is closely related with the emergence of new technologies. As Castells (1986) argues, new technologies have played a crucial role in the restructuring of capitalism. As a major site for knowledge and innovation production, the university has been forced to transform to support economic growth. Science parks and joint ventures with private firms are some examples. A science park can be defined as a space where a university develops and transfer knowledge to its tenants for the efficient use of technology (Link and Scott, 2006: 44). In this process, the university, as an individual institution, can easily attract investment from individual capitalists by enabling the scaling down of their investments to a micro level using its built environment. This process also enables the university to reinvest surplus into its tertiary circuit activities. Harvey (1978) presumed that the state plays a dominant role in

facilitating the tertiary circuit of capital because investments in the tertiary circuit tend to be large-scale and long-term processes. This means that there are barriers that prevent individual capitalists from switching their surplus from the primary circuit to the tertiary circuit of capital. In this regard, the built environment of the university might be a medium to enable individual capitalists to channel their investments into the tertiary circuit more easily through the secondary circuit.

The competitive advantage of the university as a knowledge producer can be understood as a form of knowledge (or technological) rent and as a new source of revenue in contemporary capitalism (Teixeira and Rotta, 2012; Tretter, 2016). Marxist theory traditionally defined the value of science and technology as zero because the knowledge of science and technology were considered to be mobile and reproducible at nearly zero cost (Rigi, 2014; Teixeira and Rotta, 2012). However, along with the emergence of information and communication technology, science and technology have become monopolised commodities through the introduction of intellectual property rights. Such a transformation reflects the idea of capital as a social subject reflecting the transformation of capitalism, and it has led to the university enjoying its superior status in its host city as a knowledge producer and an enabler. The university receives part of the surplus value from productive activities as a form of knowledge rent, which is powerful because the surplus value can come from anywhere since knowledge has no geographical boundaries, even though not every university is able to extract knowledge rents because each university has different roles and innovation capabilities in society.

In relation to the emergence of flexible accumulation, the financialisation of capitalism also needs to be addressed to investigate the emerging roles of the university in the city. The concept of financialisation has emerged in advanced capitalist economies over the past four decades together with globalisation (van der Zwan, 2014). Financialisation, as an emerging socio-economic process, enables 'profit without producing' by facilitating financial systems (Lapavitsas, 2013). The mechanism of finance to extract financial profits becomes increasingly important due to the limitations of increasing productivity growth, as we have

seen in recent decades. In this process, the realm of finance has stretched to non-financial corporations and institutions by forcing them to participate in financial markets actively (ibid.). Financialisation penetrates every aspect of society in developed economies as well as in the developing world to a substantial degree (Lapavistas, 2009). Financialisation has also shifted responsibility for the market from the state to others such as private firms and individuals as argued by Fraser (2015). By decoupling the economy from the polity, the state can effectively avoid a legitimacy crisis (Fraser, 2015). The university was not an exception in the process of financialisation. Particularly in the US, various types of universities have become increasingly dependent on finance (Eaton et al., 2016). As seen in the US and UK, students and their households are increasingly reliant on lending to pay tuition (Callinicos, 2006; Eaton et al., 2016).

Furthermore, financialisation has led the university to put more focus on the built environment. Moreno (2014) elaborated the theory of capital circulation with the concept of financialisation to demonstrate the importance of the built environment in the circulation process of capital in contemporary society. This argument is also closely related to the research conducted by Christophers (2011) about the pattern of capital switching into the built environment in the UK from 2000 onward. The research pointed out that there is persuasive evidence of capital switching from the tertiary circuit to the secondary circuit. This process has been largely fuelled by pension fund investments, which can be conceptualised as an interaction between real and financial accumulation overlapping with what Moreno (2014) pointed out in his work. The built environment has evolved through financialisation toward the easier abstraction of surplus value. In this process, the tertiary circuit of capital becomes more privately financed to accelerate the process of capital accumulation. In this regard, the university is expected to invest more in land and real estate using its endowment and other kinds of fictitious capital to extract different forms of rents. For example, Yale University invests 12.5 per cent of its \$25.4 billion endowment fund in real estate (*YaleNews*, 2016). It is not difficult to find similar cases from other US and UK universities: while the size of their endowment funds has grown

significantly over recent two decades, a part of the funds has been invested in the built environment (Eaton et al., 2016).

Summary

This section conceptualised the university in the circuits of capital. Capital circulation as an abstract theory can be a core concept to understand ongoing urbanisation processes. Harvey (1978) focused on capital switching from the primary circuit to the secondary circuit of capital while paying relatively less attention to the switching of capital from the secondary and tertiary circuits to the primary circuit in a relative sense. However, as argued above, the built environment of university is also actively participating in the capital accumulation process by internal and external demands while other capital circuits of university offset the limits and contradictions of the accumulation process through internal capital switching processes. Furthermore, the emergence of flexible accumulation accelerates such processes. Nevertheless, the theory should not be understood as a homogeneous concept for understanding the urbanisation process in concrete space. As Lefebvre (1991: 308) argued, ‘the space that homogenises thus has nothing homogeneous about it’. In this regard, the following section will focus on the theories of urban politics as a supplement framework for understanding the more concrete level of the urban processes of the university in cities. While the capital circulation theory allows this study to position the university’s role in broader urban processes, this framework will offer a more grounded understanding of the relationship between the university and other urban actors.

2.2. A political anatomy of universities in cities

This section will conceptualise how the university actually has participated in cities and regions in various ways. By doing so, this section aims to provide more concrete analysis of the role of the university in the urban process. The literature utilised in this section is mostly based on the US context because there have been a limited number of studies covering

elsewhere. Thus, this section also aims to form a basis for investigating the relationship between the university and cities and regions in other parts of the world. To do so, this section firstly reviews the literature in relation to regional development, which represents a conventional analysis of the university for the economic development of cities and regions. Then, it moves to theories of urban politics to provide more critical analysis together with the theoretical framework developed in the previous section.

2.2.1. Questioning the positive role of the university in urban and regional economic development

The urban university has emerged from the mid-20th century with a rapid increase in enrolment (Klotsche, 1966). While there are various definitions of the ‘urban university’, Klotsche (1966: 3) broadly defines it as a university located in and serving an urban community. The urban university in the US in the mid-20th century actively pursued campus development projects to accommodate an increasing number of students. In this process, the university is expected to act as a ‘fixer’ of the city, utilising its resources to be an ‘urban university’ instead of a ‘university built in a city’ (Goodall, 1970: 48). In particular, Goodall (1970) emphasised the urban university’s public service and community involvement functions and suggested that the urban university needs to utilise its urban location to benefit both the university and the community. The urban university can help solve the complex problems of contemporary cities effectively by playing various roles: providing a high-skilled labour force, attracting industrial firms, and providing research about local and regional problems (Gottmann, 1986). Such a belief has led that the state and private firms to offer favourable conditions for the university to relocate or to expand its campus.

The increasing interest in the roles of the university in cities and regions is mainly due to the emerging expectations of the university as a knowledge and innovation producer for promoting economic growth and wealth creation. Cities and regions are considered not simply as spaces in which universities are concentrated but as ‘loci’ where knowledge is produced through

scalar effects and knowledge spillover (Capello et al., 2013a: 2). Universities are expected to actively participate in these processes for regional and national economic growth (Arbo and Benneworth, 2007). The triple helix and regional innovation systems theories explain how universities are operated for achieving such growth. The triple helix theory argues that the university has engaged in hybrid organisational forms that enable collaboration between the university, the state, and industries to promote a new mode of knowledge production (Etzkowitz and Leydesdorff, 2000). The theory of regional innovation systems emphasises the role of the university in regional innovation through networking as well as regional development processes. The university is believed to be actively participating in the knowledge production process while interacting with other actors in a region for constructing regional competitive advantage (Charles, 2006).

Theories about the university and its contribution to regional economic development can partly explain the increasingly influential presence of the university in cities and regions, but they fall short of fully addressing the relationship between the university and the city itself. In theories of regional development, cities and regions are considered to be mediums for promoting regional and national economic growth. The reason that cities and regions are important is largely because geographical and cognitive proximity are understood to be accelerating knowledge production (Capello et al., 2013a). In this process, the built environment is regarded as a by-product of economic activities and plays a passive role in the process. This view contrasts with Harvey's (1978) argument that the built environment is forming a large part of the process of capital accumulation, as shown in Section 2.1. The built environment and the production process have an interdependent relationship to enable the accumulation process and to address the inherent overaccumulation problems of capitalism. In this regard, emerging built forms resulting from new modes of accumulation need to be considered as a result of the interplay of different circuits of capital. Such built forms then affect existing urban space and lead to the social and political transformation of cities as argued by O'Mara (2007). The emerging landscape of the knowledge economy may help the

economic growth of cities but accelerate gentrification as a socio-spatial process of class struggle (ibid.). Existing theories about the university and regional economic development ignore this integrated relationship between the university and the city.

It is also questionable as to how the built environment of university has contributed to the processes of knowledge and innovation production. As argued above, much literature has focused on the role of the university in knowledge and innovation production in cities and regions, however, they neglected the questions of 1) how and why the built environment of university is produced; 2) how it is related to knowledge and innovation production; and 3) how it is related to its host city and region (van Heur, 2010). Furthermore, the belief in the university as a knowledge and innovation producer also needs to be challenged. Felsenstein (1994) argues that governments often uncritically promote policies for knowledge and innovation production, despite the tendency that they can only be successful under certain conditions. The research conducted by Goddard et al. (2012) for the case of the north-east of England also supports the argument that innovation production is unlikely to be successful in an economically lagging region. In this regard, the construction of new university facilities for supporting a new mode of knowledge production could end up being a speculative real estate development project, as Felsenstein (1994) argued above. In this process, knowledge and innovation production may remain just a rhetoric to justify real estate development projects conducted by the university and private interests (Harloe and Perry, 2004).

2.2.2. Urban politics and the urban university

The land and buildings of the university – collectively called the built environment of university in this study – should be understood in a broader context. Theories about knowledge and innovation production as investigated above do not offer a holistic approach to understand the complicated relationships within the higher education sector and between the university and the city. As investigated in Section 2.1, universities are increasingly involved in different circuits of capital. Thus, it is expected that the built environment of the university also plays a

large part in the process of capital accumulation and the urbanisation process in its host city because, as Harvey (1978) argued, the secondary circuit of capital plays a substantial role in the capital accumulation process. New accumulation strategies resulting from emerging modes of accumulation have shifted the university system in the following directions: diversified funding sources due to public funding cuts, and expanded developmental periphery, strengthened steering cores like business firms, and an integrated academic culture (Clark, 1998). How these shifts of university systems have affected the built environment of university in the city needs to be investigated further.

Several studies have examined how universities have participated in their spatial expansion projects and influenced their surroundings, but most of them did not try to link such projects with wider urbanisation processes as well as the transformation of societies. Harvey's (2008) article is one of the few attempts that have been made to conceptualise the university in urban processes. He uses the examples of Columbia University and the University of Baltimore in the United States to argue that universities became powerful institutions for shaping much of the urban fabric to suit their needs. Moss (2011) analyses various university expansion projects in New York and claims that universities nowadays actively engage in urban development processes by utilising various planning and zoning tools as much as possible. Universities also become a part of neighbourhood development processes by carrying out real estate development-based projects (Coffey and Dierwechter, 2005; Rodin, 2007). These activities may be understood in terms of universities trying not only to improve their neighbourhoods but also to ensure their competitiveness by improving their reputation. Furthermore, universities also directly engage in urban planning processes by working with local governments under the mission to revitalise their cities (Bunnell and Lawson, 2006). This applies not only to public universities but also to private universities.

In this regard, the urban growth machine theory can be a useful concept to critically understand the role of the university in urban development. The core idea of the growth machine can be summarised in two ways: collaborative speculation to produce the preconditions for

accumulation and risk sharing supported by the state and finance capital (Harvey, 1989). The theory was developed in the 1970s by Molotch (1976) as a tool to understand the growth dynamics of cities, such as the shaping of land-use patterns and the distribution of resources. According to this argument, a coalition is formed in a city for pursuing economic growth by promoting high-density land use (Logan and Molotch, 1987). This enables property owners to increase rent collection, while associated profits can be used for achieving growth. Every growth actor shares an interest in local growth and its effects on land values. Various actors and organisations in cities are identified as land-based interests. The 'rentier' class, including property developers and banks, is centred in a growth coalition. Auxiliary players, including the media, sport teams, and the chamber of commerce, support the rentier class to achieve their material goals. Public officials also play a significant role in a growth coalition, while they are supporting the material interests of the rentier class.

In the growth machine theory, the university was considered as one of the auxiliary players (Logan and Molotch, 1987), although it might play a more significant role in a city than the theory originally claimed. The university is induced to join a growth coalition by other actors, such as bankers and newspapers, by acting like a growth 'statesman' instead of being an advocate for a certain type of growth (Molotch, 1976: 316). The reason for the university to join the growth coalition is that the university needs more students to sustain its own expansion plans. As a part of a growth coalition, the university is understood as a body pursuing its material goals and trying to maximise its benefits. The theory tends to conceptualise the university as a secondary player to support the rentier class in a city, defining the university as a passive actor in the growth coalition.

The growth machine theory is considered to have limitations due to its inherent bias toward the urban development experiences of the US during the post-war period. Since the theory is based on the 'machine politics', which derived from the fragmented political conditions of the US in the 19th century while cities were experiencing rapid expansion, it focuses on hierarchical and disciplined party politics in terms of their roles and functions in the urban

process. There have been several attempts to apply the growth machine theory to other parts of the world, including the UK (Harding, 1991) and Eastern Europe (Kulcsar and Domokos, 2005). These studies often point out that the growth machine concept cannot be fully applied in their local contexts because the theory neglects the role of the state within their cities, which differs from that in the US. Moreover, as Cochrane (1999) points out, the localist approach of the theory fails to sufficiently explain the emerging roles of global-level politics.

The growth machine concept, nevertheless, is still a useful assumption to understand cities in different contexts. In the process of applying the concept, the similarities and differences of cities in different contexts can be discovered effectively. Several studies have also been conducted by using the growth machine concept as a theoretical framework to investigate East Asian cities including Japan (Molotch and Vicari, 1998), South Korea (Bae and Sellers, 2007; Kim and Ahn, 2010), Singapore (Pow, 2009), and China (He and Wu, 2005; Zhu, 1999). These studies emphasise the strong presence of the state. The state in East Asia often pursues large-scale infrastructure provision, working with large conglomerates, which are often transnational companies (Molotch and Vicari, 1998). Supralocal-level actors such as the central government remain important actors in urban growth when compared with cities in the US (Bae and Sellers, 2007). Such attempts suggest that conceptualising the university as a growth actor can be an effective strategy for understanding the dynamics among urban growth actors.

2.2.3. Globalised cities and the university

The role of the university to provide a competitive advantage for its host city have become more important over the recent decades. Cities and regions have become a collective unit due to the increasing interurban competition resulting from globalisation and financialisation (Harvey, 1989). It is believed that fostering favourable environments for production and consumption can lead to securing their advantageous positions in interurban competition. Convention centres, sports stadiums, and large-scale shopping malls are examples showing the new patterns of development as well as a new accumulation strategy defined as flexible

accumulation (Harvey, 1987). The university is also considered as one of the critical elements of cities to improve their competitiveness by improving the quality of labour power and providing efficiency and depth of social and physical infrastructures (Harvey, 1989). The uneven geographical development resulting from increasing interurban competition is related to the role of the university in the city as well. Some powerful cities like New York and London have acquired centralised control and management over other parts of the world (Sassen, 2012). Cultural and innovative powers also can be instruments for control and management (Harvey, 1989). In this regard, the university can be a contributing factor for uneven geographical development.

Increasing interurban competition at various scales is key to explaining the emerging position of the university within the ruling coalition. As investigated above, the presence of the university is now considered as a critical precondition for more profitable accumulation under the knowledge-based economy. This has been possible because of the belief that knowledge capital, derived from universities, has a close relationship with economic growth and wealth creation (Cooke, 2002; Etzkowitz et al., 2000; Porter, 1990). The city expects that some parts of knowledge rents extracted by the university are shared with the city through consumption and reinvestment activities. Such a belief has led to the active spatial expansion of universities and the emerging position of universities within their host cities. The major difference with other built forms is that the university engages with multiple circuits of capital in a complex way as argued above. In this regard, the spatial expansion of universities within cities need not be overlooked as an auxiliary activity of their cities.

Despite the widespread belief about the university-industrial synergy, however, the university is better understood as a land-based interest in most cases. The existence of universities does not always result in innovative activities (Castells and Hall, 1994; Scott and Storper, 1987). In fact, such a notion is difficult to identify and test, as argued by Scott and Storper (1987), but the university utilises the belief that it can bring innovation and wealth to the city, as much literature suggests. In this regard, the university has become an active land-based interest

which negotiates its benefits from the government or private firms by utilising a haze of illusion in the positive role of the university in the city and the region. Particularly in deindustrialised cities in the US such as Baltimore and Philadelphia, the university, together with the medical sector, replaces the role of the private sector to play a leadership role in city affairs (Ehlenz, 2016; Stoker et al., 2015).

The New Urban Politics can be a useful concept to explain the emerging position of the university in the city. The new urban politics understands urbanisation as a multi-level process wherein different levels of actors are involved (Jonas and Wilson, 1999). Cox (1993, 1995) particularly stresses that global-level influences promote local economic development by attracting mobile capital instead of the narrow focus of the growth machine theory that has local politics as its centre. Furthermore, the new urban politics not only focuses on diverse urban actors from different levels but also emphasises the need to understand the internal political dynamics within a globalising city, which the globalisation literature tends to overlook (Ancien, 2011; MacLeod, 2011). In this regard, the university can be conceptualised as one of urban actors collaborating with the state, the private sector, and global partners to promote local economic development and participate in urban development projects. Such activities are also related with the effort to integrate the university and the city in the global economy (Benneworth et al., 2010). As Cox (2011) and MacLeod and Jones (2011) admit, the existing studies of New Urban Politics mostly focused on the US context, but an increasing number of studies including Jessop and Sum (2000) and Olds (1995) shows their usefulness for understanding the nexus of variegated geographical contexts and politics on various scales (Ancien, 2011).

The importance of the built environment of the university can also be understood through the New Urban Politics. The built environment is a core element of the New Urban Politics and its policies. Groups of policies try to enhance competitive advantages through improving and adapting the built environment in a city under the New Urban Politics (Swyngedouw et al., 2002). The emergence of policies for promoting new accumulation strategies has resulted in

introducing a set of policies in this regard. Such policies aim to enhance investments in the built environment and restructure the labour market for accelerating the circulation of capital through state intervention. Swyngedouw et al. (2002) investigated large-scale urban development projects in Western Europe as cases of the new urban politics, and five out of six major urban development projects include university buildings and research facilities for promoting economic growth of their cities. Such projects tend to be beneficial to certain classes in cities and to promote socioeconomic polarisation rather than social cohesion, aggravating the living conditions of vulnerable social groups. Similar cases can be found not only in globalising Western European cities but also elsewhere, like in Abu Dhabi (Ponzini, 2011) and Shanghai (Chen et al., 2009). However, much literature only focuses on the state and its policy: universities are only considered an additional element of development projects.

Summary

Much literature focuses on the knowledge and innovation production function of the university. Most of it barely addresses the built environment of the university and just conceives of the university as a subordinate body for regional and national growth. One of the points at issue is that knowledge and innovation production is successful only under certain conditions and the role of the built environment in the city need not be underestimated. For resolving this issue, two different theories have been discussed: the growth machine and the New Urban Politics. Both theories offer a view to understanding the relationship between the university and the city in socio-political contexts. The New Urban Politics is particularly helpful to investigate the university in the urban process under capitalism because it explains the rationales for university expansion in the city: investments in the built environment and the restructuring of the labour market for accelerating the circulation of capital. Nevertheless, some questions remain. Can these theories be mobilised to investigate the built environment of the university in other contexts, where the historical and geographical contexts and socioeconomic and political processes are different from Western Europe and the US? The following sections will shift its focus to East Asia for laying a further analytical framework for this thesis.

2.3. The circuits of capital and the East Asian developmental state

In the previous sections, theories of the urban process were investigated to conceptualise the diverse roles of the university in the urban process. The following sections aim to extend the debate beyond its narrow focus on the Western context by mobilising theories focusing on urbanisation trends in East Asia. Ideas of the East Asian developmental state have been centred on the debate of the urban process in East Asia. The developmentalism is an ideology, which asserts that economic progress is best achieved by the strong state control over the public and private sectors (Hill et al., 2012). Urbanisation in East Asia has been closely linked with the developmental state as one of its strategies to accelerate the process of capital accumulation. However, as Johnson (1998: 657) argued, the East Asian developmental state is just a 'model', and heterogeneous realities exist within it, and the ideology has also evolved through neoliberal globalisation processes. This section will focus on conceptualising the East Asian developmental state and the university as key principles for investigating the rapid economic growth of East Asian countries throughout the rest of this thesis.

2.3.1. The emergence of the developmental state in East Asia

The state has been a major force to shape the economic and political landscapes of cities and regions, as Scott et al. (2001) argue. Even in the age of neoliberalism, the state has played a crucial role in promoting neoliberal ideologies, despite the belief that the state is being phased out due to market-oriented regulatory restructuring forces operating on a different level of spatial scale (Brenner and Theodore, 2002; Peck and Tickell, 2002). The path-dependent nature of neoliberal restructuring processes is a crucial factor for the processes. Post-socialist cities in Eastern Europe are examples – they are on a different trajectory than Western European cities because of their path-dependent character such as existing institutional resources on urban actors, which is rooted in their historical legacies and current situations (Harloe, 1996). In this regard, it can be argued that East Asian cities have different trajectories than others. The term 'developmental state' is often used to explain the economic and social

trajectory of East Asian countries. Hill et al. (2012) define it as an ideology in which the state controls the public and private sectors to achieve economic progress. Both the public and private sectors are expected to follow planning guidance from the state to secure the nation's position in the global economy through rapid industrialisation.

The East Asian developmental state can be framed within the theory of capital circulation. Harvey (1978) viewed the state as a mediator rather than as a direct participant in the circuits of capital. Based on his theory discussed in the previous section, the state is mostly regarded as playing a role in facilitating the circulation of capital from the primary circuit to the secondary and tertiary circuits. It enables individual capitalists to switch their surplus to other circuits by lowering barriers for capital switching so that they can deal with overaccumulation problems. But unlike Harvey's (1978) original argument, in East Asian countries, particularly the East Asian newly industrialising countries (hereafter NICs) which is a term indicating South Korea, Singapore, Hong Kong, and Taiwan, the state also has engaged directly in the circuits of capital. Wade (1990) argues that the East Asian states are not only governing the market but also often participating in the market by establishing public enterprises. Public enterprises in Singapore, Taiwan, and South Korea account for a large part of capital formation in their countries (Booth, 1999). The developmental state in East Asia cannot be simply branded as capitalist because it has also promoted social development of their countries, but there are entrepreneurial characters in it. In this regard, it can be understood that the rapid growth of the East Asian economy has resulted largely from the state intervention through facilitating and participating in the circuits of capital to accelerate the process of capital accumulation (see Shin, 2009, 2011; Shin and Kim, 2015).

Urbanisation in East Asia is closely related with the process of capital accumulation. Urbanisation has been one of the strategies to achieve the vision of the state in East Asia, which is mainly about supporting the economic growth of the country (B-D Choi, 2012). East Asian economies have been considerably dependent on urbanisation and urban (re)development activities. Speculative property booms were encouraged by the alliance of the

state and conglomerates in South Korea (Shin, 2009; Shin and Kim, 2015). The profit from real estate developments projects has contributed to the nation's wealth. In Hong Kong, the property sector has accounted for 24 per cent of its GDP since 1980 while property and construction stocks consist of 30 per cent of total stock market capitalisation (Haila, 2000, 2016). Haila also defines Hong Kong and Singapore as property states due to the importance of the property sectors and real estate markets in their economies (Haila, 2000). The government revenues are also heavily dependent on land and property-related incomes. Japan is also referred to as a 'construction state' because of its heavy construction investment in public works and urban development (McCormack, 1996; Sorensen, 2011).

In this regard, in East Asia, built environments have played a crucial role in accelerating the process of capital accumulation. In the case of South Korea, the state cooperated with large conglomerates to conduct large-scale urban development projects resulting from industrialisation in the 1960s and 1970s (Park, 1998). Surplus capital resulting from rapid economic growth from direct production has been invested in the real estate and construction sectors. Shin (2009) understands the rapid urbanisation of South Korea as the absorption of surplus capital from primary production in the secondary circuit of fixed capital and the built environment as the capitalist process of accumulation. The state has decided the best industrial locations and offered basic infrastructure for promoting export-oriented industries since the 1970s (Bae and Sellers, 2007). Through this process, urban development and industrialisation can be promoted at the same time. However, this strategy can easily result in the uneven development of the country. Rapid growth with rapid capital accumulation often results in high degrees of inequality as well (Stiglitz, 1996). Furthermore, the secondary circuit of capital often exceeds the first circuit. Conglomerates in South Korea invested more capital in the speculative real estate sector than the industrial sector in the 1980s (Park, 1998).

2.3.2. Neoliberal reform of the East Asian developmental state

Represented by Thatcherism and Reaganism, the neoliberal structuring of the global economy after experiencing the global economic crisis of the 1970s has eventually transformed the political-economic space not only in Western Europe and North America but also elsewhere (Brenner and Theodore, 2002). The state, territory, and social structures have been restructured and rescaled due to the forces of neoliberal globalisation (Brenner, 1997). These restructuring processes have also greatly influenced the urban environment. Cities and regions have become more and more interconnected through globalisation processes, which have become more influential at various levels. However, neoliberal globalisation is not a homogeneous process. Global and world city theories, which focusing on globalisation as a universalising strategy, have been consistently criticised by other scholars including Brenner (1998), McCann (2004), Robinson (2002), and Smith (2014), mainly because of their simplicity and Western-oriented structural ideas. For instance, Brenner (1997) pointed out that the globalisation debates exclude the role of the state in globalisation processes and that there is an ontological dichotomy between global- and local-level processes. However, he argues that the state is restructured when responding to emerging global- and local-scale processes, instead of being diminished by them (Brenner, 1998). Neoliberalism is an ideology under which variegated geographies of ‘actually existing neoliberalism’ are manifest (Brenner and Theodore, 2002).

The developmental state in East Asia has also evolved under neoliberal globalisation processes. As argued above, globalisation processes are multi-faceted processes in which various levels of actors compete with and affect each other. Cities and countries have become more intertwined globally, and the autonomy of the state in a global economy may be more restricted than ever before (Scott et al., 2001). However, this does not mean that the state’s power over cities has diminished. In particular, East Asian cities are noticeable exceptions. There are three theories to explain the neoliberal transformation processes in East Asia: a post-developmental approach, a developmental neoliberalist approach, and a diverse hybrid approach (Park and Saito, 2012). To elaborate further, firstly, it is argued that the

developmental state has been transformed into the post-developmental state (Fujita and Hill, 2012). Largely focusing on the experience of Japan, Fujita and Hill (2012) argue that neoliberalisation cannot explain the current trends in Japan and that the Japanese state still plays a dominant role in planning and controlling urban development plans. Secondly, Saito (2012) and Choi (2012) argue that globalisation trends have transformed the developmental state to share the fundamental structural characteristics of neoliberal Western capitalism. For instance, competitive market forces and private development activities are encouraged while the welfare system is diminished. Lastly, a hybrid approach argues that the developmental state is neither completely transformed nor unchanged. Park and Lepawsky (2012) understood that the developmental state is consistently contested by neoliberal forces to shape their policies and that the outcomes are based on path-dependent nature of the developmental state.

The urban process in East Asia has also been shifted by the neoliberal globalisation processes. Urban areas have been shaped by this process more and more for accelerating capital-surplus production and absorption (Harvey, 2008). Cities are key sites for capital accumulation, and capital accumulation processes are becoming more globally conducted than ever before. The evolution of these strategies can be explained by the shift from managerialism to entrepreneurialism in urban governance in the late 1980s (Harvey, 1989). Under urban entrepreneurialism, speculative private-public partnerships are promoted for attracting funding, investments, and employment sources. The partnerships are more speculative and involve more risk-taking activities while focusing on economic development. The political economy of territory becomes a less important issue than the political economy of places (*ibid.*: 7). Cultural and commercial facilities play an important role in promoting regions. Cities are constructing landmark facilities, and competitively so, to establish a better reputation than others. This promotes geographically uneven development, which can be considered as one of the outcomes of urban entrepreneurialism. In the end, these emerging capital accumulation strategies are accelerated by the globalisation trend (Harvey, 1989). Most East Asian countries also have implemented several neoliberal urban policies, including free economic zones,

science parks, private-public partnerships, and global city-oriented urban renewal projects (Park and Saito, 2012). Various property-based interests, including large conglomerates, cooperate with the state in East Asia to conduct speculative urban development projects while social exclusion is often compounded (Shin, 2009).

2.3.3. The geopolitics of the East Asian developmental state

Understanding geopolitics in East Asia is essential for the analysis of the development state. The 'East Asian Miracle' is often simplified as a result of right policies and right timing by focusing on institutional capabilities (Rowen, 1998), but its link to colonial, postcolonial, and imperial powers cannot be overlooked. Particularly, Cold War politics was strongly related to the economic development of East Asia (Glassman and Choi, 2014; Woo-Cumings, 1998). East Asian NICs were 'bulwarks against communism' for the US (Woo-Cumings, 1998: 328). In the three decades after 1946, the US offered a total of \$12.6 billion in aid to South Korea while South Korean military forces were deployed in Vietnam (*ibid.*). In the case of Singapore, 15 per cent of the national income was coming from US procurements for the Vietnam War in the late 1960s and British Forces spent more before their withdrawal from Singapore (Central Intelligence Agency, 1967). Moreover, the Cold War was not only a key driver for economic development itself but also an instrument of the state for obtaining its legitimacy to use of laws and state violence for mobilising cheap labour (J-K Lee, 2010). Without considering the geopolitics of East Asia, the changing socio-economic and political conditions of East Asian countries can only be partially understood.

Furthermore, colonial legacies in East Asia also need to be considered when investigating the socioeconomic and political conditions of East Asia because they were crucial in shaping the conditions. The extraordinary economic performance of East Asian countries is frequently understood as the result of the successful intervention of the (authoritarian) state through the efficient use of imported capital and technology (Chang, 1993). However, such arguments tend to underestimate the colonial legacy of the East Asian developmental state. The colonial-

trained human resources were leading the technocratisation of the governments and offering high-quality civil service while colonial industrial infrastructure was equally beneficial (Kohli, 1994; Pei, 1998; Rowen, 1998). The experience of Japanese large conglomerates, the *zaibatsu*, also led the birth of Korean conglomerates, known as the *chaebol* (Woo-Cummings, 1998). Moreover, the colonial experience of the colonised played an important role in forming the ideology of developmentalism (J-K Lee, 2010). For instance, South Korea's authoritarian developmentalism and modernisation efforts correspond to Japanese imperialist militarism and industrialisation policies (ibid.: 30). In this regard, an investigation of the (post-)developmental state needs to consider the historical and geographical contexts before the birth of the developmental state.

East Asian universities can provide an alternative view to understand the changing socioeconomic and political conditions of East Asia because they have developed since the colonial era while accumulating such changes. Colonial universities were established in most East Asian countries but by different interests. They were established not only by imperial powers but also by ethnic clans and missionaries; then became elite institutions to support the nation's growth under the developmental state. For example, the National University of Singapore and Seoul National University are derived from the colonial powers while Tsinghua University in China and Yonsei University in South Korea were established by Christian missionaries from the US. While most institutions such as the government and the private firms in the former colonial states were mostly established after the liberation from the colonisers, East Asian universities have existed and operated continuously since colonial times by serving the changing political and economic needs of various groups. Such a historical aspect of East Asian universities can be a key clue to trace the diverse trajectories of the East Asian developmental state.

Moreover, an investigation of the East Asian university can challenge the homogeneous conceptualisation of the East Asian developmental state. Universities have been utilised for supporting the goal of the developmental state to foster rapid economic growth and

industrialisation, but when comparing South Korea and Singapore, despite their similar direction to assist rapid economic growth, their approaches were noticeably different. The Singapore government directly participated in higher education, but the Korean government heavily relied on the private sector for promoting higher education even though both countries have strong controls over the sector. Likewise, Park (1998) investigated the role of the state in housing provision in both countries; it can be understood that rapid economic growth was achieved at the expense of social development in South Korea, while the Singapore government was in charge of doing so. Such different approaches also have been observed after experiencing neoliberal reform of higher education, which was initiated in the 1990s and then accelerated from the 2000s. Universities in Singapore and South Korea have been given greater autonomy and flexibility than before as a result of neoliberal globalisation processes, but the state still controls universities in varying degrees. In this regard, various interventions by into the university the state can be seen as an example showing the heterogeneity of the developmental state.

Summary

This section provided an understanding of how the East Asian developmental state emerged and developed as well as its relation to the urbanisation process. It then showed how the developmental state has been transformed due to the neoliberal globalisation processes. The East Asian developmental state has controlled both private and public sectors to achieve rapid economic growth. In this regard, the state not only facilitates the process of capital accumulation but also engages in this process itself. It has controlled the different circuits of capital, including built environments, to maximise the growth. Such rapid growth was possible largely because of capital switching between the primary circuit and the built environment under state control as argued above. On the other hand, the transformation of the East Asian developmental state also has been observed. The neoliberal structuring of the global economy from the 1970s has influenced the state in different ways including its urbanisation process. To investigate such changes, the colonial legacies in East Asia need to be considered because

the birth of East Asian developmental state is closely related to them. An investigation of East Asian universities can help to investigate such relations as well as various heterogeneous urbanisation processes in East Asia.

2.4. Locating the university in East Asian cities

This section will investigate how the university has participated in East Asia's urbanisation by engaging the circuits of capital and providing grounds for further debates about the East Asian university in urbanisation processes. The built environment has played a crucial role in the achievement of rapid economic growth in East Asian NICs. In this regard, it can be expected that the university also has been a part of such strategy. Moreover, Section 2.1 investigated how the university in the tertiary circuit of capital has been transformed as a consequence of the transformation of the East Asian developmental state. In this regard, it can be argued that the spatiality of the university in East Asia also has been transformed in a manner similar to its transformation in the West. In this regard, this section starts with a review of the relationship between the university and the East Asian developmental state. Then, the section moves on to investigate how the university in East Asia has engaged in the urbanisation process during the period of rapid industrialisation by the developmental state via an analysis of existing literature and research. This will be followed by a discussion on how the neoliberal restructuring of East Asian developmental states has affected the spatiality of the university in East Asia for providing insight into the roles of the university in East Asian urbanisation processes.

2.4.1. The East Asian university under the state's control

Before investigating how universities in East Asia have participated in the urbanisation processes, their relation to the developmental state in terms of their roles in economic and social development needs to be identified for investigating its relation to urbanisation. As argued in Section 2.1, it is conceived that the education sector in the tertiary circuit of capital

accumulation has been controlled by the state for facilitating capital switching (Harvey, 1978). In the East Asian developmental state, the state control over different circuits was more evident, as argued above. In this regard, it can be expected that the intervention by the developmental state in the education sector is more strongly observed than in other developed economies in the West. The university in East Asia has been mobilised for achieving the goals of the state.

However, there are also notable differences in terms of the relationship between the state and higher education within the developmental states of NICs, as briefly mentioned in the previous section. The Singaporean and South Korean governments strategically utilised the higher education sector to accelerate economic and social growth of their countries when they felt the need of moving beyond the industries based on low-skilled labour. In this regard, the South Korean government played a more passive role in facilitating the tertiary circuit for higher education as a facilitator while the Singaporean government was actively participating in the tertiary circuit with a high level of policy and financial support. In South Korea, it was only after 1990 that the government started to offer direct and indirect subsidies to private universities (Chae and Hong, 2009). As argued above, the higher education sector in East Asia shared the common ideology for the facilitation of economic and social development, but the actual strategies and ways it participates in the tertiary circuit in various countries were not identical.

Furthermore, it is questionable as to how neoliberal globalisation processes have transformed the university in East Asia as a consequence of transformation of the East Asian developmental state. The processes of neoliberal globalisation have restructured the higher education sector in East Asia as they have done to the East Asian developmental state. Neoliberal higher education policies have been introduced into the East Asian countries since the late 1990s by promoting the corporatisation, marketisation, and privatisation of universities (Lee and Gopinathan, 2003b), but as Green (1999) argued, education structures and policies are considerably different within developmental states in East Asia. The knowledge-based economy has become central to the Singaporean government's economic development agenda

from the late 1990s. The government is actively involved in attracting foreign universities into the country by offering various incentives for promoting the knowledge-based economy and securing a labour supply for such an economy. This differs from the policies of South Korea, which focus on the growth of domestic universities. Moreover, despite the deregulation of the university establishment in South Korea from the late 1990s, Singapore universities are strictly controlled by the state in terms of their establishment and selection of foreign partners (Mok and Ong, 2012). Such considerable differences existing in East Asia need to be considered when investigating the built environment of the university.

2.4.2. The nature of the built environment of the university in East Asia

As shown in the beginning of this chapter, Harvey's (1978) capital circuit theory offers a framework for conceptualising the emerging roles of the university in urbanisation processes under contemporary capitalism. The theory can also be utilised for investigating the roles of the university in the urbanisation process within the East Asian context. Section 2.3 showed that the secondary circuit of capital has been utilised by the East Asian developmental state to accelerate the circulation of capital and the process of capital accumulation. In this regard, it can be argued that the university has also been mobilised by the state to participate in this process, not only in the tertiary circuits of capital but also in other circuits. The built environment of the university in the secondary circuit is also part of the circuits of capital which enable continuing the process of capital circulation. It might not have played a significant role in the urbanisation process until the government's focus of industrialisation had shifted toward value-added production and the service industries. In South Korea, the state was more likely restrict the growth of universities to prevent an oversupply of highly educated people even though the strong social demand for higher education led the initial growth of private universities (Seth, 2002).

The real estate assets of the university also participated in the process of capital accumulation. From the late 1970s and early 1980s, the university in East Asia started to receive attention

from the state to support the rapid industrialisation of their countries, as argued above. In Singapore, where the state possessed and controlled every university in the city-state, universities were developed, including NUS, which opened in 1980. A new campus of the university was built in the 1970s and 1980s on a former British military site. NTU, one of the two universities in Singapore until 2000, also experienced a major renovation and expansion in the early 1980s. In South Korea, universities were more actively mobilised by the state. In particular, the Yushin regime, that is the authoritarian military dictatorship that ruled South Korea from 1972 to 1979, initiated the idea to relocate universities in Seoul to achieve balanced territorial development of the country by decentralising the concentrated population of the capital region and developing the lagging regions of the country. As a result, 12 private universities in Seoul opened their campus branches outside Seoul. Ten of them opened their second campuses between 1978 and 1982. Considering that there were 28 four-year universities in Seoul as of 1980, a large number of universities participated in the movement. Hence, the university in East Asia has been widely utilised as a tool for urban development as well as in state rescaling processes to accelerate the economic growth of the country.

On the other hand, the expansion of the university in East Asia is not due to a simple relationship between the developmental state and the university. It has occurred through multi-faceted processes wherein multi-level actors are involved. In South Korea, as mentioned above, the national government induced universities in Seoul to open their campus branches in major regional cities in South Korea. However, in the end, most of them positioned their campuses near Seoul and have eventually become a part of the capital region. In this regard, the central government's original purposes were not achieved, instead causing side effects such as increased social costs and unequal educational opportunities to students in the capital region (Cho, 2009; Kwon, 1992). The expansion of universities in South Korea can be viewed as a spatial policy as a part of the state accumulation strategies, which are similar to industrialisation policies in the 1960s and 1970s (Park, 2003). In this process, the university also can be conceptualised as an actor mobilised for state spatial projects and strategies.

However, the university as an individual capitalist utilised the state accumulation strategies to pursue its interest instead of simply acting upon them. As Gimm (2013) argues, this process can be considered a bottom-up scaling process which is interlocked with a top-down process to produce state space.

The multi-scalar perspective of the East Asian developmental state suggests that the expansion of the university in East Asia as a multi-level process also needs to be analysed on the local scale from a limited view under the theory of the East Asian developmental state (Gimm, 2013; Park, 2003). In the previous chapter, it was pointed out that the growth machine theory (Logan and Molotch, 1987) and the production of 'New Urban Policy' (Cox, 1993; Swyngedouw et al., 2002) could be utilised to understand the emerging roles of the university in the urbanisation process in the Western context. Despite its limitations in terms of direct application to the East Asian context because of its narrow focus on local politics and the oversight of higher levels of the government, the growth machine theory may provide a useful framework by which to initially locate the potential position of the university in East Asian urbanisation processes. That is, the university in East Asia can be conceptualised as a land-based interest. In the case of South Korea, the private university can only be established with sufficient assets to generate profits for its operation, which is largely dependent on land and property. In 1997, 73 per cent of assets of private universities in South Korea consisted of land and property (Korea Higher Education Research Institute, 2013b). The largest portion of income of a private university foundation, the parent body of private university, also comes from real estate-related businesses (Koo, 2009). The built environment is not only centred on the state in East Asia, but also on important elements for actors in the private sector, including the university experiencing immense national economic growth and an accelerated process of capital accumulation and maximising surplus value.

2.4.3. The built environment of the university in East Asia under a neoliberalising state

Having discussed the restructuring of the higher education sector in East Asia as a consequence of the neoliberal restructuring of the East Asian developmental state in the earlier section, this part will investigate how these processes have affected the built environment of the university in East Asia. In particular, the roles of the university in the urban development need to be investigated because the higher education sector in East Asia is experiencing intensive growth. The number of university students in South Korea has sharply increased by almost six times between 1980 and 2010 (Korea Higher Education Research Institute, 2013c). In Singapore, the number of university students has also increased by six times over the past three decades (Singapore Ministry of Education, 2013). Four universities were established after 2000 along with NUS and NTU (*Straits Times*, 2017). In this regard, it can be argued that the rapid expansion of the university in East Asia has affected the urbanisation process in East Asian cities, yet few studies have focused on this development.

As argued above, the role of the university in cities and regions has shifted due to the emergence of the new economy, even though their processes and results differ from the ones in the West. Such transformation processes have led us to formulating the hypothesis in terms of the emergence of new spatial strategies of the university in East Asia to support the new economy. Furthermore, as argued in the previous section, their development strategies and drivers are different within the developmental state. In South Korea, universities have often participated in urban development processes. In New Songdo City, which is the newly reclaimed land located near Seoul, several universities have been attracted by the local government to open campus branches in the city to promote the brand-new city as a global high-tech knowledge hub (van Winden et al., 2012). However, as Shin (2017) claimed, the roles of central and local governments as well as real estate investment need be investigated carefully. In the case of Singapore, NUS was asked to play a key role from the initial phases of Biopolis, which is a government-led science park development project to promote the

biotechnology sector as an engine of future growth for the city state, by changing the curriculum to produce skilled researchers and by collaborating with private firms (Ferretti and Parmentola, 2015). The university also occupies buildings in the science park to continue its support of the growth of the knowledge industry. In this regard, the built environment of the university in East Asia is still closely linked with the other circuits of capital to support the capital accumulation strategies of the state.

Furthermore, how the university in East Asia participates in speculative urbanisation as a land-based interest by collaborating with the state needs to be investigated. As Shin and Kim (2015) argued, in East Asia, speculative urbanisation has been prominent in the process of economic development as promoted by various actors under state control, even after its neoliberal transformation. In this regard, the emerging roles of the university in East Asia place a heavy focus on the built environment rather than on performing its expected roles as a knowledge and innovation producer. In this process, the belief in the ‘university as an innovative milieu’, derived from universities in the West, may be mobilised as a rhetoric to legitimise university development projects in East Asia. One-north¹ in Singapore, a state-led urban development project for promoting high-tech industries, is one case to show how the state mobilises discourses of the ‘new economy’ to legitimise a state spatial project (Wong and Bunnell, 2006). On the other hand, several studies have suggested weak university-industry linkages in the East Asian NICs. Even though various policies have been implemented to foster collaboration between universities and industry from the 1980s, the role of the university in the knowledge and innovation production is still weak and remains a traditional means to supply high-quality labour in East Asia (Ferretti and Parmentola, 2015; Hershberg et al., 2007; Sohn and Kenney, 2007).

Despite the strong state influence over the university in East Asia and the given autonomy of the university in East Asia by the state, the emergence of the built environment of the

¹ One-north is officially written in lower case letters as ‘one-north’.

university cannot be understood simply as a result of top-down processes led by the state. It can be argued that the built environment of the university has become a more diverse and complicated area as with other players in cities mentioned in previous sections. This is particularly related to the emergence of urban entrepreneurialism in East Asia. As argued in the previous chapter, urban entrepreneurialism has been observed in cities in the West from the 1970s, focusing on a public-private partnership within a city (Harvey, 1989). Likewise, in cities in East Asia, the notion of entrepreneurialism has arisen (Jessop and Sum, 2000; Shin and Kim, 2015; Yeoh, 2005). In this regard, the university can also be conceptualised as one individual private actor in an entrepreneurial city which has received more attention in terms of the role it has played in the wider urbanisation processes. Among the relative dearth of literature and research on the roles of the university in the urbanisation process in East Asia, Han and Yu's (2008) study about a university in Seoul shows how the university interacts with private actors and the local government to pursue its campus development projects. Based on research from the Korea Higher Education Research Institute (2015), there have been trends wherein universities in the capital region have expanded their campuses in other areas in the capital region from the mid-2000s. Then, from 2010 onward, several universities in the non-capital region attempted to relocate to the capital region; consequently, there have been diverse and active engagements of universities in East Asia within wider urbanisation processes.

Summary

This section conceptualised the role of the university in the urbanisation process in East Asia, particularly focusing on its transformative process. The university in East Asia was mobilised by the state to support state ideology in achieving rapid economic growth. Even though higher education was not emphasised during the initial phases of industrialisation, the built environment of a university was a part of the state strategy to accelerate the process of capital accumulation. However, despite the strong state influence over the university, the built environment of the university needs to be understood as a complicated object wherein multi-level actors are involved. Furthermore, after experiencing the neoliberal restructuring of the

East Asian developmental state, the built environment of the university has played a more diverse and active role in the urbanisation process as well as in the process of capital accumulation. In particular, university development projects tend to be a part of speculative urban development processes, which is a distinctive characteristic of the urbanisation process in East Asia. Nonetheless, there are major gaps in our knowledge concerning emerging urbanisation actors in East Asia, including the university. It appears, therefore, that further systematic investigation of such gaps is needed for providing a better understanding of diverse urbanisation strategies in East Asia as well as of the roles of emerging actors in such strategies.

Conclusions

To provide a theoretical framework for this thesis, this chapter outlined the theoretical debate of the university in relation to debates on the roles of university in the city and the capital accumulation process. In this regard, this chapter first developed the theory of capital circulation and suggested positioning the university in the secondary circuit of capital to explain the emerging roles of the university. By doing so, this study conceptualises the university as an active agent working in different circuits of capital for facilitating the accumulation process, and posits that the built environment of the university plays an important role in this. Then the review of different theories of urban politics followed to supplement the theory of capital circulation by providing more concrete understandings of the university in urbanisation processes based on its socio-economic and political contexts. This chapter then considered the East Asian context by focusing on the concept of the developmental state and the importance of the built environment of it. Lastly, this chapter located the East Asian university in the urbanisation process to urge the need for a further systematic investigation by considering its historical and geographical conditions including its colonial legacies.

In the end, this study proposes a framework to investigate the process and consequence of development activities of universities using the theory of urbanisation process under

capitalism for having a broader understanding of the emerging roles of the university in the city. Furthermore, this study proposes focusing on the geographical context elsewhere than in Western Europe and the US, where most studies have been conducted. Various cases can be found from all over the world from Seoul (Han and Yu, 2008) to Caracas (Colmenares, 2008). Nevertheless, these case studies cannot offer a critical understanding of the university as a part of wider capital accumulation and urbanisation processes because they tend to fail to extend beyond a case study. In this regard, this study will focus on universities in East Asian cities to investigate the roles of the university in the urbanisation process by developing the theory of capital circulation. By doing so, it is expected to provide opportunities to understand the emerging urbanisation process resulting from new modes of accumulation while extending the debate beyond North America and Western Europe.

Chapter 3: Doing comparative urbanism in the Global East

3.1. The comparative case study approach

- 3.1.1. Why a comparative case study?
- 3.1.2. Doing a comparative case study in the Global East
- 3.1.3. Case selection process: cities in East Asia
- 3.1.4. Case selection process: universities

3.2. Data collection methods

- 3.2.1. Collection of local documents and archival records
- 3.2.2. Semi-structured interviews
- 3.2.3. Unobtrusive observation
- 3.2.4. Reflections

3.3. Qualitative data analysis

- 3.3.1. Comparative analysis
- 3.3.2. Data classification and analysis strategy

One expects that the 21st century will begin with Asia and Europe moving forward together. But such a parallel procession does not mean that Asia will line up with the advanced regions; rather, the vertical principle that entails an advanced and a backward must be converted into a horizontal one that entails parallel positions. – Mizoguchi, Yūzō (1989, translated and published in English in 2016)

Mizoguchi (2016) questioned the Euro-American-centred mode of knowledge production during his lifetime, and now we see the ongoing efforts in the field of urban studies to diversify our understandings of cities and urban processes in different parts of the world. In this respect, this research conducts a comparative analysis of East Asian cities as a strategy to overcome the Western-dominated view of cities to provide an understanding of heterogeneous urbanisation processes in East Asia. Despite such emerging needs, however, how to design and conduct a comparative analysis is a subject of debate. To do so, this chapter firstly introduces comparative urbanism as a key methodological concept of this study in Section 3.1. Comparative urbanism is a method as well as philosophy and practice to overcome the Western-dominated understandings of cities in the world; however, how to design and implement a study is a challenge while innovative approaches have been encouraged. In this regard, the rest of this section will explain the process of how cities and universities have been selected for this comparative analysis. Then, Section 3.2 explains the data collection methods by introducing various types of data utilised for this research. This chapter then concludes with a brief introduction of the qualitative data analysis process of this research in Section 3.3.

3.1. The comparative case study approach

This thesis aims to understand how and why the university participates in urbanisation processes and the differences and similarities of such processes in different cities in East Asia. Despite the existing common belief that East Asian cities share a similar economic and urban development trajectory, there are notable differences in several aspects such as housing and

higher education policies as investigated in the previous chapter. This section first aims to explicate the importance of employing a comparative case study approach for this research to understand such differences and similarities of the urban process in East Asia. Then, it reviews the concept of comparative urbanism and justifies the utilisation of the university as an object of comparison. Lastly, the section on the case selection process covers the theoretical and practical considerations in selecting cases and the rationale for selecting two universities in Singapore and Seoul.

3.1.1. Why a comparative case study?

This research adopts comparative case study as the primary research method. The aim of case studies is to describe or reconstruct a case in a more precise way (Flick, 2009: 134). As Yin (2009a: 2) argues, a case study is one of the various methods used for social science research when a researcher cannot formulate research settings. Since this research focuses on the development of an institution, i.e., the university, and the interactive relationship between the university and the other political actors in its host city, the case study is a preferred method for this research. Furthermore, a case study is also preferred when research focuses on tackling ‘how’ or ‘why’ types of questions as well as contemporary event in the real world. The main question of this research is how and why the university participates in urbanisation processes in different historical and geographical contexts.

There have been two common types of comparative approaches: variable-oriented and case-oriented (Nijman, 2007). The variable-oriented approach frequently involves a large number of cities with various quantitative measures. Various studies about global and world city theory, including Sassen (1991) and Friedmann (1986, 1995), are related to this approach. These studies tend to neglect diverse, complicated, interactive and multi-level processes of globalisation since they largely emphasise ‘command and control’ functions of a few cities in the global economy. Brenner (2001) categorised such studies as encompassing case studies by borrowing Tilly’s (1984) categorisation of comparative strategies. An encompassing case

study focuses on varying relationships to the system as a whole and focusing on a solid theory (Tilly, 1984: 83). Such a reductionist approach often fails to consider various processes of globalisation in ‘other’ cities by conceptualising them as subordinate bodies instead of as interactive ones.

In contrast, a case-oriented approach focuses on a small number of entities. The recent renaissance in comparative urbanism is mainly related to this kind of approach, represented by Tilly’s (1984) variation-finding comparison (Brenner, 2001; Mcfarlane, 2010; Ward, 2010). This strategy focuses on ‘establishing a principle of variation in the character or intensity of a phenomenon by examining systematic difference amongst instances’ (Tilly, 1984: 83). Thus, it is an appropriate method to determine a rationale of difference and similarity of a particular process, which is a university-led urban development project in the case of this research. Such comparative strategy also coincides with Kantor and Savitch’s (2005) argument: the comparative case study can help identify how political decisions and growth interests are interconnected with capital as well as the possibilities and limitations of growth coalition actors by investigating their major interests, political agendas, and dynamics within a growth coalition (Kantor and Savitch, 2005: 147). This research aims to investigate the ongoing transformation of the urbanisation process under the East Asian developmental state and how this process has evolved due to different scalar influences by utilising theories proposed in earlier chapters. When considering this purpose and the benefit of different comparative approaches, a comparative case study method is employed in this research.

While there have been several theoretical debates about comparative urbanism and comparative approaches to study urbanisation processes in different parts of the world, there has been little debate about how a comparative study can be conducted in practice (Mcfarlane, 2010; Ren and Luger, 2015; Robinson, 2016; Ward, 2010). This is partly because comparative urbanism is, of course, a challenging concept because it requires ‘extensive methodological innovation’ (Robinson and Roy, 2016: 184). While Peck (2015) summarised various trends of comparative urbanism and demanded a careful approach, Scott and Storper (2015: 1) more

actively argued that every urbanisation process can converge into two processes: ‘the dynamics of agglomeration/polarisation’ and ‘the unfolding of an associated nexus of locations, land uses and human interactions’. Such claim was criticised by several scholars including Robinson (2016), Roy (2016), and Walker (2016) due to its too simplified generality. Roy (2016: 203) further argues that Scott and Storper (2015) have confused comparative urbanism in terms of ‘the misreading of historical differences as empirical variation; an analytical confusion between globalisation and universalisation and between generalisation and universalisation; and the valorisation of Eurocentrism’.

Roy’s (ibid.) argument also proposes how the structural aspect of Harvey’s capital circulation theory, along with the postcolonial aspect of comparative urbanism can coexist. Even though the idea of comparative urbanism keeps a distance from universalising ambitions, the idea, in fact, does not reject a structuralist approach if the urbanisation process is considered ‘historically produced and differentiated’ (Robinson and Roy, 2016: 184). In this regard, Roy (2016: 203) made an important point that the existence of globalised capitalism cannot be denied but capitalism elsewhere has been constituted through the histories of colonialism and imperialism. Leitner and Sheppard (2016) also support such aspect by urging the need to utilise critical urban theory critically. In this regard, the combination of capital circulation theory and comparative urbanism can be an effective strategy to investigate the variegated urbanisation processes in East Asian cities based on their different histories, including colonial legacies. For doing so, comparative urbanism will be initiated based on capital circulation theory as a reference point but will take an open stance to revisability in this thesis, as suggested by Robinson (2016).

Furthermore, comparative urbanism is also useful for tackling problematic records of cities in the world by dividing them into two categories: urban theories, which focus on the West, and development theories, which focusing on so-called ‘third-world’ cities. Such divisions have been consistently criticised by other scholars, such as Brenner (1998), McCann (2004), Robinson (2002), and Shin et al. (2016) due to their dichotomous way of thinking and Western-

oriented structural ideas. For example, Robinson (2002) mentions several East Asian countries, such as Singapore, Taiwan and South Korea, as cases for the 'end of the Third World' because of their emerging presences in the global economy. Nevertheless, it is still unclear how we can determine whether a country or a city has shifted from a third-world status to a global or world-city status. There is no doubt that Beijing and Shanghai have been recognised as global and world cities nowadays. The second-largest numbers of Fortune Global 500 companies are based in China, behind the US (Dempsey, 2017). Despite these facts, the recent debates on East Asian cities are still more familiar to be located in the fields of development studies and area studies than in urban studies.

Comparative urbanism is a strategy for overcoming the existing West-versus-Third World dichotomy. McFarlane (2010: 275) argues that the comparative approach is a 'mode of thought' for investigating how the urban theory is produced. Comparative studies are expected to contribute to expanding the range of debates and offer new viewpoints of cities. Comparative studies of East Asian cities can be particularly helpful for understanding contemporary globalisation processes. Waley (2012) argues that there is an emerging need to both identify differences and generalise their context among East Asian cities for constructing narratives that have wider meaning. In the end, the comparative studies of East Asian cities can be especially useful for understanding diverse globalisation processes, since there are ongoing discussions about how the developmental state in East Asia has been transformed under pressure from neoliberal ideologies (Park and Saito, 2012). Such arguments resonate with the concept of the Global East proposed by Shin et al. (2016) to understand diverse urbanisation processes based on different place-based geographical and historical specificities by challenging the epistemic and institutional divide between the North and the South (ibid.).

3.1.2. Doing a comparative case study in the Global East

By employing the university as an instrument for comparison, this research aimed to be more tangible and down-to-earth. The strongest point of focusing on the university is that it provides

an understanding of multi-level urbanisation processes because it is an institution engaging with various levels of politics: local, national and global. University is a locally embedded institution based on land, which has operated and expanded by interacting with other actors in its city, including individual citizens. The national context is also equally important because the higher education system and policies are normally set up by the central government. On the other hand, universities have become highly internationalised and globalised institutions sharing similar operational structures and physical forms (Altbach and Knight, 2007; Jöns and Hoyler, 2013). Investigating university-led urban development projects in different parts of the world enables us to understand the differences and similarities of the urbanisation process resulting from different local, national and global contexts. Furthermore, it enables further replication of this study across different contexts because the institution has existed and operated in the most parts of the world, not like corporate headquarters, which limits the comparative analysis for few selective cities in the West.

The university can be an especially effective tool for conducting a comparative analysis of cities in East Asia. There have been several attempts to conceptualise universities as urbanisation actors with growing importance in their hosting cities in the West (Birch, 2010; Perry and Wiewel, 2005; Stoker et al., 2015). However, there have been relatively fewer attempts to do this in East Asia. The higher education sector has expanded rapidly in East Asia over past decades together with rapid industrialisation. Like universities in the United States and Europe, the development of East Asian universities has also affected the rapid urbanisation process of East Asian cities. Such phenomenon is not only observed in more advanced economies in East Asia, but also in other developing economies such as Guangzhou University City in China, Bandar Seri Alam in Malaysia and the International University Township Project in Vietnam at this moment.

Furthermore, the university in East Asia has a long history that extends back to the colonial era. Because colonial legacies in East Asia vary, their historical urbanisation processes also vary. There is a few number of a comparative study of East Asian colonial cities in the field

of history but is barren in urban studies so that how different colonial legacies have affected the contemporary urbanisation process in East Asia has barely been addressed. Since Japanese imperialism is considered different from the West in several fundamental aspects, as argued by Cumings (1984), how the university was established and operated in East Asian cities in the colonial context and how it has been developed further after liberalisation can help broaden our understanding of colonial and postcolonial cities by investigating different colonial legacies.

An investigation of the East Asian university can also diversify our understandings of the East Asian developmental state. There is a widespread belief that flagship development projects mentioned above tend to be initiated by local or national governments or both due to the strong presence of the developmental state in East Asia. However, the multi-scalar approach of the East Asian developmental state implies that the university can be conceptualised as a multi-scalar actor which engages with multi-level actors locally and globally as argued in the previous chapter. Such an approach helps in understanding the urbanisation process in East Asia as multi-faceted processes, of which various levels of actors compete with and affect each other. Thus, this multi-scalar approach to investigate the East Asian state can be beneficial for overcoming the existing territorially trapped idea of the state by ‘revealing veiled actors and factors that describe the realities of the multi-scalar processes of East Asian economic development’ (Hwang, 2016: 554).

3.1.3. Case selection process: cities in East Asia

Based on methodological considerations discussed above, the Seoul metropolitan region in South Korea and Singapore are selected as primary sites for this comparative case study. South Korea and Singapore are two of the ‘Four Tigers’ along with Taiwan and Hong Kong. These countries have achieved notable economic success since the late 1960s through the state’s interventionist strategy of industrialisation. Such common strategies include developing technological capabilities, promoting exports, and building the domestic capacity to

manufacture a range of intermediate goods (Stiglitz, 1996). However, it is a problematic approach to conceptualise them as a homogeneous group based on their economic growth over the past few decades because considerable differences have been observed within the East Asian developmental states such as their housing (Park, 1998) and higher education policies (Green, 1999). Their different colonial legacies have affected such differences, but such historical conditions have been barely addressed. By comparing different countries in East Asia, this study can examine the variety of urban political economy within East Asia more closely and avoid sticking to the economic logic of global economic restructuring as suggested by Logan and Swanstrom (1990: 6).

There were several practical considerations when selecting case study cities and universities. To carry out a comparative case study, my case selection strategy needs to be more refined based on theoretical and practical considerations. Especially, considering the limited resources and the time constraints of my doctoral research, the use of my previous knowledge and experience as well as current resources needed to be maximised. In this regard, as a planning practitioner and researcher having worked in Korea for several years, it was a more feasible choice to select South Korea as one of the countries for the comparative case study because I had more access to a variety of information to help to select case study cities from the early stages of this research. There is also no language barrier, which is a common obstacle to conducting a field research abroad. When selecting Singapore as the second case study country, there were also several practical concerns such as language barrier and accessibility. I identified Singapore as the best option for this comparative study through a relatively uncomplicated process of selecting universities for the case study as further discussed below.

The Seoul Metropolitan Region (SMR) is where the capital of South Korea is located, and economic activities and universities are concentrated. Its long and dense history enables us to trace the transformation processes easier than for other cities in East Asia. Furthermore, as argued above, South Korea is considered to have been governed by the developmental state. The state is also considered to have exercised control over universities, and education policies

in these areas also reflect the characteristics of the developmental state. Universities in Japan and Korea are expected to supply stable workforces for conglomerates with strong support from the developmental state (Green, 1999). Nevertheless, it is also arguable that how the neoliberal globalisation process has transformed the East Asian developmental state from the late 1990s.

Singapore's trajectory is distinguished from South Korea. It also has a rich history as a colony of the British Empire, then being governed by the developmental state. However, neoliberal higher education policies are more visible in the country from the late 1990s by promoting corporatisation, marketisation, and the privatisation of universities (Lee and Gopinathan, 2003b). While the knowledge-based economy has become the centre of the government's agenda from the late 1990s onward, the government is actively involved in attracting foreign universities into the country by offering various incentives. Green (1999) argues that education structures and policies are considerably different within the developmental state in East Asia. It can be assumed that the urbanisation process related with the university can be considerably different within East Asia as well. Comparing the higher educational institutions in Seoul Metropolitan Region and Singapore will help us understand the different trajectories of the East Asian developmental state.

A comparison between Seoul and Singapore will be beneficial to enhance our understanding of 'ordinary' cities because there are still a very small number of studies comparing these cities. While several studies compare Singapore and Hong Kong including Haila (2000) and Castells et al. (1990), only a limited number of studies compare East Asian countries with different languages and cultures and with different colonial legacies. In particular, postcolonial cities previously under the Japanese rule were underrepresented in urban studies. Even Anthony King (1990: 2) once showed a Eurocentric simplification of colonialism by mentioning that 'virtually all peripheral regions in the world-economy were at one time controlled by European core powers'. When considering the complexity of cities in Korea, China, and Taiwan and their status and roles, such a statement is problematic. In this regard, this research aims to form

a basis for further comparative investigations of other Asian cities by investigating cities with different colonial legacies.

3.1.4. Case selection process: universities

For the selection of cases, both similarities and differences between East Asian developmental states are considered. As explained earlier, it is believed that the East Asian state has been utilising universities to support industrialisation and promote the state ideology. However, the role of the university in East Asia has shifted over time. After the 1990s, universities in East Asia have been planned and controlled by the state to promote the strategic decision of the state to integrate countries into the global economy by following the trajectory of their counterparts in the West (Boucher et al., 2003; Mok, 2003; Mok and Lee, 2003). Such a trend supports the idea of not conceptualising the East Asian developmental state as internally homogeneous. Therefore, universities in East Asia should not also be understood as homogeneous institutions dominated by the state. The selected cases need to reflect diversities that existing within universities in East Asia.

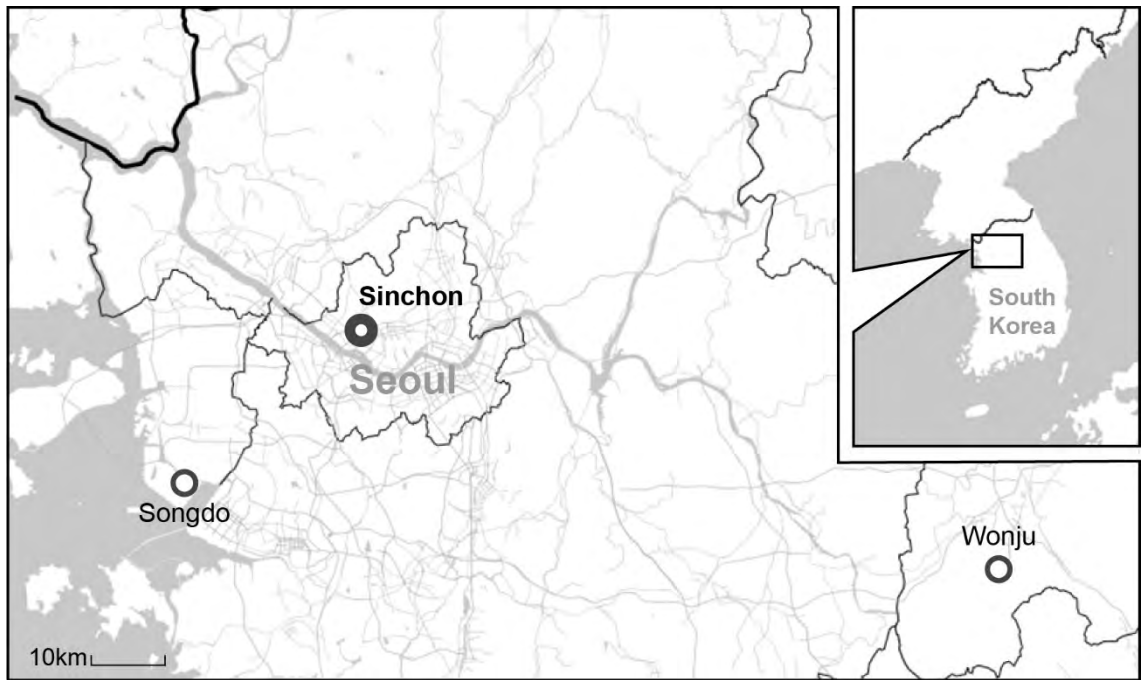
For comparing differences between two cities in East Asia, two aspects were considered when selecting case universities. Firstly, the difference between the two cases needs to be reflected upon. The higher education sector in East Asia has been developed by different operators. In Singapore, the development state owned and operated universities. In this city, only two universities were operating until 2000. In South Korea, the higher education sector has heavily relied on private universities under state control. Thus, there might be considerable differences between the spatial developments of East Asian universities. In this regard, case study universities for this thesis need to reflect the distinctive characters of the two different countries. Secondly, the case universities are expected to have a history dating back to the colonial times. Accordingly, the universities will be able to show significant changes over time to display how the spatial development of East Asian universities has evolved. They also

should be able to contribute to the literature about the urbanisation process in East Asia and the built environment of the university in general.

With conditions in mind, I have chosen Yonsei University in Seoul, South Korea and the National University of Singapore as two main comparative cases. The two universities have long histories in both countries and have conducted various expansion projects over time: two universities were established by different colonial influences and had developed by reflecting changing geopolitics. Both universities have also experienced rapid expansion in the past decade. Yonsei University opened a large-scale branch campus in Songdo International City in SMR in 2010, and the National University of Singapore also has completed a large-scale expansion project called University Town (UTown) in 2013. Figure 3-1 and 3-2 show the locations of case universities' campuses.

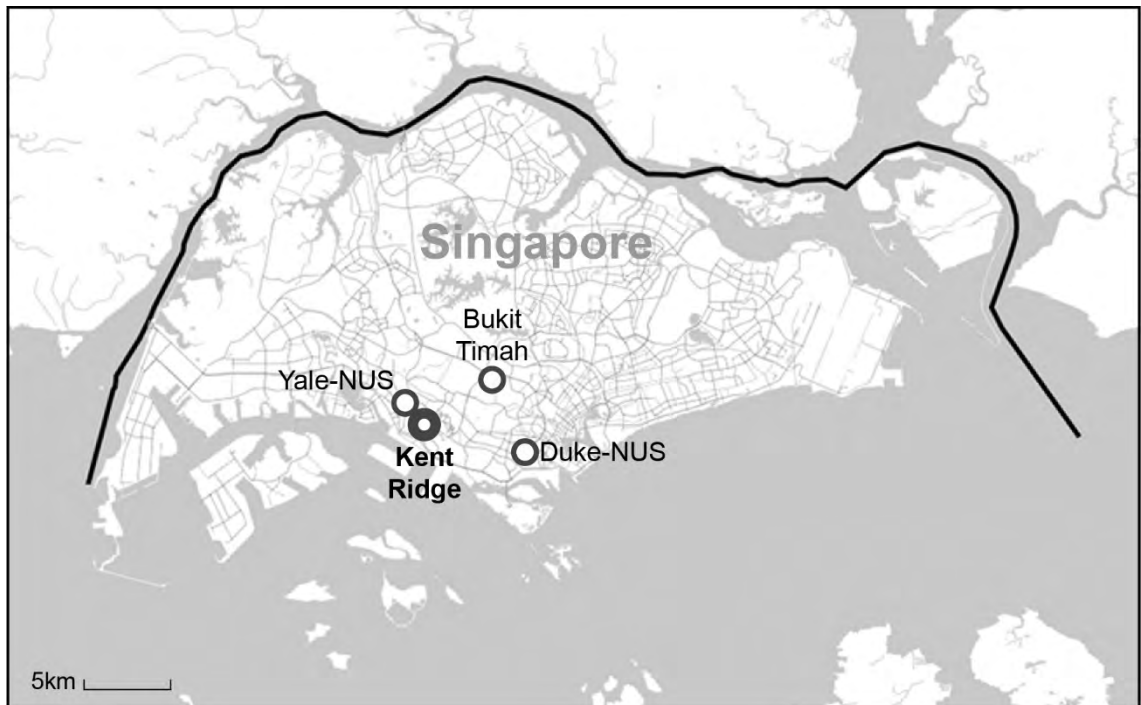
While the two universities are considered as prestigious institutions in the region, other universities are also partly utilised in this thesis as supplementary cases. For example, the cases of Incheon National University and Singapore Management University will be investigated. Incheon National University opened its new campus in Songdo International City in 2009 as a local university managed by a local government. Singapore Management University was established in 2000 as the first private university in Singapore. It is the first university that was established in Singapore after 1981. Moreover, it is the only university in the urban setting. These various factors are expected to offer multiple aspects of the higher education sector and East Asian cities. A case selection method is different from a survey sampling strategy (Yin, 2009a: 56). In this regard, two main cases and other supplement cases are considered to be sufficient to achieve the aim of this thesis.

Figure 3-1 Locations of Yonsei University campuses



Source: Author

Figure 3-2 Locations of the National University of Singapore campuses



Source: Author

3.2. Data collection methods

This section will introduce data collection methods utilised for this research. Two primary methods are discussed first: 1) a collection of documents and archival records and 2) semi-structured interviews. Since the timeframe of this research is extended to the colonial era in the early 20th century, historical documents are the crucial sources for investigating the period. The section is then followed by how semi-structured interviews are utilised not just to cover the recent period but also to gain insight into since then. I also discuss how an unobtrusive observation was conducted during my fieldwork. Due to limited time and resources, one of the key challenges was how to utilise institutional support and my complex positionality. How my different experience and positionality in Singapore and South Korea affected my data collection and why the results vary in two fields will be discussed at the end of this section. Table 3-1 summarises the data collection schedule for this research.

3.2.1. Collection of local documents and archival records

Firstly, documentation including quantitative secondary data were collected and analysed for this research. Webb et al. (1966) defined that there are two kinds of documents: running records and episodic and private records. Running records are the records of society

Table 3-1 The overview of data collection schedule

Period	Location	Activities
July-August 2014	Seoul	Collecting documents and archival records
July-September 2015	Seoul	Main fieldwork
January-March 2016	Singapore	Main fieldwork
March 2016	San Francisco, CA	Conducting a research interview
April 2016	Seoul	Conducting research interviews
April 2017	Philadelphia, PA and New York, NY	Collecting documents and archival records

continuously produced such as government records and newspaper articles. Episodic and private records are more discontinuously produced and less public. Such records include documents and statistics published by private firms and autobiographies. One of the major differences between these two document types is that running records enable a researcher to conduct a longitudinal analysis of an event through documents (Webb et al., 1966). Both kinds of documents have been collected for this research because this research deals with the historical development of university campuses from the colonial era as well as the recent transformation of universities. There are potential risks to using such documents as research sources, such as selective deposit and selective survival (Gray, 2004). Thus, documents need to be understood as outcomes of human interaction, which are rearranged artefacts for specific purposes (Prior, 2004). Although documents may not be used for validating the interview findings because documents are not just a description of facts, documents can be used as supplementary data by providing an understanding of the social phenomenon in institutional contexts (Flick, 2009). For the period that interviews cannot cover, such as the colonial era, documents were collected as a major source of information.

The first part of the empirical chapters focuses on historical changes in universities in East Asia and their spatial implications over several decades. In this regard, various kinds of historical documents were collected to investigate such processes. These include those published by different levels of the government, legal documents about higher education and built environment sectors such as one about collective property sales in Singapore, and newspaper articles. Annual reports, strategic plans and estate management plans published by universities were also investigated. Autobiographies of key actors and history books of universities were collected when available. Even though every document needs to be analysed in a critical manner, autobiographies particularly need to be analysed carefully with other complementary resources since they have the possibility of deliberate distortion as suggested by Brewer (2000). Other kinds of documents and interviews were an effective way for

Table 3-2 Four types of documents collected for this research

Contemporary primary: compiled by the writer at the time		Contemporary secondary: transcribed from primary sources at the time	
Personal	Official	Personal	Official
<ul style="list-style-type: none"> ▪ Interview transcripts from the media ▪ Letters exchanged by missionaries 	<ul style="list-style-type: none"> ▪ Local council meeting minutes ▪ Verbatim records of the national assembly, local councils, and university administrations ▪ Press releases by universities and governments ▪ Websites ▪ Codes of laws 	<ul style="list-style-type: none"> ▪ Magazine interview articles ▪ Interview excerpts from other publications 	<ul style="list-style-type: none"> ▪ Maps ▪ Master plans, strategic plans and estate management plans by universities ▪ Reports by the national assembly ▪ Reports by the missionary headquarters ▪ Census statistics ▪ University annual reports
Retrospective primary: compiled by the writer after the event		Retrospective secondary: transcribed from primary sources after the event	
Personal	Official	Personal	Official
<ul style="list-style-type: none"> ▪ Autobiographies ▪ Oral history ▪ Obituaries 	<ul style="list-style-type: none"> ▪ Commemorative publications by universities ▪ Historical archives 	Not collected	<ul style="list-style-type: none"> ▪ Digitalised newspaper articles ▪ Magazine articles ▪ Research articles ▪ Reports for campus development projects

Source: Author compiled based on Brewer (2000: 73)

triangulation. Visual records such as historical maps, master plan documents, rendering images and photographs to supplement other resources were also widely collected. Table 3-2 is the categorisation of collected documents for this research based on Brewer's (2000: 73) definition of documents.

As shown above, secondary data, from government reports to previously produced research outputs, are actively utilised for this research. This is partly because this research covers an extended period from the colonial era so that primary data is difficult to acquire. Secondary

data are also useful when conducting comparative studies (Tyrrell, 2016). The primary data I collected can be compared and combined with other previously produced data to enrich comparison and locate my findings in a wider context (ibid.). However, such data needs to be carefully utilised because it is collected by others possibly without quality control and the purpose of data is different from my research. Relevance, reliability, robustness, and representativeness are thus important factors when utilising secondary data (Black, 2010; Tyrrell, 2016). Such nature of secondary data is always considered during the analysis of collected data. Furthermore, I tried to access diverse sources as much as possible to cross-check the previously generated findings.

Quantitative data also was collected as a part of secondary data. This includes general statistics about the higher education and built environment sectors in East Asia. Specifically, changes in the number of university students, university budgets and the size of endowment funds were collected. In relation to the built environment, changes of land size and building area of universities and budgets for major projects were investigated along with the general urbanisation trends in case study cities. Even though this research focuses on qualitative sources of data, quantitative resources can enhance qualitative work by improving generalisation and credibility of arguments against ‘the charge of anecdotalism’ (Seale, 1999: 138). Neither case study research nor qualitative research aims to generalise its findings and make them transferable (Polit and Beck, 2010). However, validity and reliability cannot be undermined. Quantitative data has been used for data triangulation to increase the validity of the qualitative findings and produce knowledge at different levels to promote the quality of this study.

To gain accesses to diverse materials and to facilitate further research stages, several strategies were implied. To access materials in South Korea, I mainly used Yonsei University Library as well as the National Library of Korea. Some of the internal documents published by Yonsei University were acquired during my investigation process. One report published by the university contains memoirs by university professors and staff who participated in a campus

development project. It helped me to understand key processes of project development and identify potential interviewees. In the university library, there was also a special collection contributed by a retired professor of urban planning at the university. Because he worked for decades for the local government where my case universities were located, he had several internal consultation reports and plans from the government. He left such documents to the library. His collection helped me save both my time and effort to access different libraries to acquire them. I also interviewed him later as a part of my research.

To locate materials in Singapore, I utilised my university's exchange programme to the National University of Singapore. My university offers a programme for a research student to spend maximum three months in a partner organisation in abroad, and NUS is one of them. Thus, I was able to be a registered student at NUS through the programme and use facilities in NUS. NUS as the oldest university in Singapore and holds a rich collection of historical materials in relation to my research. In particular, the Singapore/Malaysia Collection at NUS Central Library was the centre of data collection. A large part of plans and documents I collected as well as students' theses about my research topic were only accessible through the library. The National Library in Singapore was supplementary for collecting additional materials.

This research also involved research visits to the US and France. Because several East Asian universities historically developed with supports from foreign organisations, the relevant documents were scattered. For example, Yonsei University was founded by American Christian missionaries. Thus, my visit to the Presbyterian Historical Society in Philadelphia, PA was necessary to investigate its establishment process and its relation to the colonial government. I also visited other libraries in the US including the Burke Library at Union Theological Seminary in New York, NY. In the case of NUS, the campus was expanded with the support of the United Nations in the late 1960s. In this regard, I visited the United Nations Educational, Scientific and Cultural Organization's (UNESCO) Archives in Paris. However, despite their confirmation prior to my visit, the document that I was searching for was missing,

so I failed to access the original mission report. In such cases, I had to rely on other secondary sources.

3.2.2. Semi-structured interviews

Semi-structured interviews are a useful method to explore different views on a specific phenomenon. Collecting diverse views on a set of complex issues through semi-structured interviews would enable researchers to clarify the process in depth (Wengraf, 2001). For conducting semi-structured interviews, it is important to prepare the topic guide to clarify the questions and the sampling strategy to select the interview respondents (Gaskell, 2000). For preparing the topic guide, an extensive review of documents and archival records was conducted in the early stage of research to formulate questions. Based on the theoretical framework, questions were prepared in common terms. In terms of the sampling strategy, it was crucial to conduct interviews with university stakeholders and government officials. However, I aimed to interview other actors in cities and universities having different opinions because the purpose of qualitative research is to explore a broad range of different views rather counting opinions (Gaskell, 2000).

It is common for the selection of potential interviewees to be deliberate and purposeful for conducting qualitative research interviews (Flick, 2007). The selection strategy needs to reflect the variation and variety in the phenomenon as much as possible. In the case of this research, it needs to include a diverse range of stakeholders about the higher education sector. The case study sites were already selected according to the case selection process in the previous section. In this regard, I aimed to interview university presidents and staff of case study universities including stakeholders in anti-development coalitions. The interviews of this group can be also considered as a form of expert interviews because they are expected to have extensive experience in the research topic. By conducting expert interviews, the hypothesis for the process and knowledge of a specific event can be restructured and developed effectively (Flick, 2009). Such characteristics of expert interviews enabled me to shorten the data collection

process and to access the field more easily, which might be difficult to approach as an individual researcher (Bogner et al., 2009).

To select interviewees, purposive and snowball sampling techniques were used. Purposive sampling is a non-probability sampling strategy based on the researcher's knowledge of the population to select representative participants (Gray, 2004; Tansey, 2007). Snowball sampling is 'a non-probability sampling strategy through which the first group of participants is used to nominate the next cohort of participants' (Gray, 2004: 406). Since case universities were already identified, there was a visible set of actors that were supposed to be closely related to campus development projects, such as university presidents and senior staff, architects and planners in charge of the projects. The snowballing sampling method nevertheless was employed to complement purposive sampling to expand the sample and to represent the cases in as many facets as possible (Tansey, 2007). Since this research deals with a wider urbanisation process covering various times and locations, a sample from universities only was insufficient to reflect the diverse aspects of university-related urban development projects. This insufficiency was particularly because such projects tend to be conducted internally, which means that other actors outside universities are not well identified. By snowballing, it was hoped that the sample would reflect the variation and variety of the research topic.

To access interviewees was relatively easier in the case of South Korea. I had already established contacts when I carried out research for my master's dissertation. I was able to develop the interview sample by contacting them again. Snowballing sampling was useful in South Korea in practice. I located seven out of 19 interviewees by information provided by other interviewees. This helped the composition of interviewees be more balanced, as shown in Table 3.3 below.

Since I had no presence in Singapore before, it was more difficult to access interviewees in Singapore. It was crucial to get access to the field as soon as possible after starting my field

Table 3-3 Distribution of interviewees by theme

Site	Theme			Total
	University	Government	Third-party	
South Korea	7	7	5	19
Singapore	17	2	4	23
Total	24	9	9	42

research in Singapore, because my research period was limited to three months. My advisor at NUS informed me about some of the key actors about my research topic as a starting point to develop the sample. Since he had been at NUS for more than 15 years, it was possible to provide me such information based on his experience at the university. Nevertheless, snowballing did not work well when compared to the case of South Korea. Four interviewees were contacted by the snowballing sampling method, and all of them were based in universities. As a result, the composition of interviewees in Singapore leans toward experts from universities. Such a result is presumed to result from my complex identity in Singapore. This helped me access to potential interviewees, but was not enough to build a rapport with them to let me expand my pool of interviewees.

Themes for questions were defined in the early stage of fieldwork. They were categorised based on interviewees' affiliations: university, government and third-party. For the university-related group, questions were focused on how a university plans its expansion strategy, how a university funds its expansion project, how a university deals with conflicts with others, and how a university negotiates with the state. For the government-related group, how the state establishes higher education policies and its rationale for supporting universities were examined. Finally, for the third party, how their relationships with the state and their relations with universities have been changed were questioned. I expected that contacting third-party actors who have not been directly involved in university expansion activities could help to avoid bias resulting from interviewing stakeholders from universities. Specific interview

protocols were prepared before every interview based on the theme by considering an interviewee's specific position and role.

In total, 42 interviews were conducted for this research. Interviews were conducted mostly between August and September 2015 in South Korea and February and March 2016 in Singapore (see Appendix 1 for the detailed list of interviewees). Interviews were mostly conducted once per each interviewee except twice for one interviewee from NUS in Singapore. Two interviewees in Singapore were also exceptionally interviewed at one time. Table 3-3 shows the character of interviewees according to their affiliations. In the case of South Korea, the theme groups are more equally distributed than the ones from Singapore. However, I found out that several interviewees in South Korea are now holding other positions while such cases were much rarer in Singapore. For example, five out of seven government-related people are now working in universities or private firms. Such status helped me to have more diverse views about issues related to university-led urban development. In the case of Singapore, most of interviewees were from universities. This was due to accessibility issues rather than my intention. I will discuss these issues further in the following reflection part.

3.2.3. Unobtrusive observation

This research also employs observation as a research strategy. Observation was particularly important in the exploratory stage of my field research in Singapore. It is natural that observation is an important part of human geography research due to its nature, which is based on the field as a site of inquiry (Bosco and Moreno, 2009). The research questions for this study were inspired by my experience as a university student in South Korea and developed further by observing a series of events in different parts of the world. Interviews and questionnaires as common research methods might result in offering a distorted view of events or people due to the foreign and reactive nature of interviews and surveys (RM Lee, 2000; Robson, 2011). Thus, unobtrusive research methods in social research can be useful to gain

valuable insights. They are particularly helpful to supplement to other data collection methods, as suggested by Gray (2004) and Robson (2011).

My unobtrusive observation in Singapore played an important role in exploring the direction of this research and developing research ideas. The most common issues for researchers to conduct observation are to gain access to the field and its time commitment (Robson, 2011). Those issues were effectively offset by being registered as a university student in Singapore and living on campus. NUS UTown, which is located right next to the NUS main campus, is one of recent campus expansion projects I am investigating for this study. I lived there for three months from January to March 2016 during my exchange visit to Singapore, as mentioned above. This enabled me to observe several events on the NUS main campus and UTown closely as well as to observe and interact with other staff and students working, studying and living in there. Such experiences were important to develop my hypotheses for my field research. For example, my conceptualisation about NUS UTown as transnational space was initiated by my non-participatory observation and experience as a resident living there. Such an idea was discussed and confirmed later by the interviews I conducted with university affiliates. In this case, unobtrusive observation played an exploratory role for the research and the interview method was used to offset the weaknesses of both methods.

3.2.4. Reflections

My data collection process in South Korea was less problematic than I initially expected. As I mentioned earlier, it was partly possible due to my previous research experience in South Korea. Using my previously established connections, I was able to explore research materials and conduct interviews effectively. In this regard, I could interview people from different sectors in a more balanced way to show diverse aspects of university-related urban development processes. A few of interviewees also offered me internal documents which would otherwise not be accessible. As an insider born and lived in South Korea, I agree that I was able to gain access to people and use their knowledge easier than my fieldwork experience

in Singapore in general. However, this was not always the case. It was essential to interview academics about my research topic since the subject of my research was the university. In South Korea, it happened that academics were frequently serving as government advisors or were appointed as ministers of the central government. One professor, who I identified as a key person, was the Minister of Land, Infrastructure, and Transport. It was extremely difficult to access such academics. Thus, I needed to use other kinds of related resources to investigate about their roles.

In the case of Singapore, before commencing my fieldwork for data collection, I expected that it would be more difficult to obtain access to people and other resources. I was warned by other researchers doing research in Singapore several times that interviewing with people in government-related institutions would be extremely challenging and the amount of information I could get would be limited due to the closed culture surrounding such institutions. Thus, as I mentioned above, I utilised an exchange programme to NUS as an attempt to position myself as an insider to access the field and construct a rapport. I also asked my advisor at NUS to offer me a letter introducing me to potential interviewees. However, as a non-Singaporean, there were clear limitations to my strategy. Even though I was a registered student at NUS, I was often asked by my interviewees where I was from before or during interviews. Even though no one can be either a complete insider or outsider in fields, my identity was more complicated as a non-Singaporean but East Asian student from a British institution registered at NUS. Such a complex position, both as an insider and an outsider, can be beneficial for building a rapport and gaining trust if a researcher can utilise and switch between these two identities, but they can be a challenge to utilise (Mullings, 1999). Furthermore, as Rubin and Rubin (2012) argued, the quality of data from different fields might be different from each other due to the researcher's position. In this regard, my major concern in Singapore was to obtain the similar quantity and quality of data from both fields by utilising my different positions.

Regarding ethical issues in relation to my data collection process, no significant ethical issues were identified before and during the process. This is particularly because my research focuses on institutions and government bodies in developed countries rather than people themselves. My potential research ethical issues were reviewed by my department at LSE based on the LSE Research Ethics Policy before commencing my field research. I tried my best to follow the general principles of ethical research suggested by Silverman (2010: 153): voluntary participation and the right to withdraw; protecting participants' identities; examining potential benefits and risks to participants; obtaining informed consent; not causing any harm. In practice, these principles of ethical research have not had a significant impact on my field research particularly because my research focuses more on interviewing members of the 'upper' academic and bureaucratic elite. Some of more high-profile interviewees suggested that I use their names publicly and distribute the interview findings to others. In this case, the interview space was considered by them to be a field where they could exert their power, and their speeches were polished pieces. As suggested by Smith (2006), power within the interview space is not unilateral but relational. However, as a PhD student who is seeking information, I was in a powerless position. Such power relations were considered in the analytical stage, which will be elaborated in the next section.

3.3. Qualitative data analysis

This research deals with various kinds of data collected from different fields as mentioned above. Thus, such data needs to be carefully analysed through iterative processes considering the relationship between theory and data. This section first introduces the notion of comparative qualitative analysis implied for this research. Then, it briefly introduces how data is classified and analysed as an attempt to offer more reliable findings for this research.

3.3.1. Comparative analysis

This thesis focuses on the specific context and phenomenon, which were geographically and historically bounded. By focusing on a small number of cases, the qualitative research employed in this thesis enabled the researcher to understand its unique settings in which these processes occur (Maxwell, 2009). In particular, a qualitative approach is more suitable method when conducting comparative case studies because it enables an in-depth analysis of how different contexts and policies interact within a city while a quantitative approach is based on a large number of cases, which is only able to investigate few theoretical factors (Denters and Mossberger, 2006).

Qualitative research is also the preferred strategy when the research is focused on processes rather than outcomes (Maxwell, 2009; Robson, 2011). The main aim of this study is to understand the spatial development of East Asian universities as an emerging urbanisation process, which was understudied in the current literature. To address this aim, the study attempts to extend several theories for application in the East Asian context. These theories are mostly derived from and tested in the Western context, which means they need to be applied elsewhere with care. Such a condition can be effectively dealt with by using an iterative approach by continuously alternating considerations between theories and qualitative data (Tracy, 2013). Furthermore, because the theory focuses on the role of a few actors within a city, non-numerical data is mostly collected as the primary source for this research, considering the limited sample and the particularity of the context. In the end, due to its focus on particularity, quantitative methods are not used because the research findings can only partially be standardised (Robson, 2011). Such an idea also resonates with the concept of comparative urbanism: seeking flexible possibilities of explanation instead of a strict theory-like one (Nijman, 2007; Robinson, 2011).

The analysis of this research was conducted and described chronologically, starting from the colonial period. A chronological structure can be appropriate for showing the development of a certain process and change over time (Tracy, 2013). By restructuring qualitative data, a rich

understanding of chronological events can be offered, and the emergence of social processes can be detected (Gray, 2004; LeGreco and Tracy, 2009). This thesis aims to show the historical development of the relationship between the university and the city in East Asia, and there have been various interventions to affect the development of East Asian universities. Thus, chronology is chosen for this research.

The analytical time frame of this research is divided into three periods: colonial and transitional, developmental, and post-developmental periods. For the first period, the establishment of colonial universities and their relations with the colonial powers are analysed, focusing on land issues. Then, how universities were utilised for nation building after the decolonisation of Korea and Singapore will be analysed. The second period focuses on the interventions by the developmental state in universities and their spatial implications. The last period is divided into two chapters. The first part analyses the emerging roles of university in the urbanisation process. Then the second part provides in-depth studies of university-related urban development projects. As mentioned above, Yonsei University and NUS are the two main cases, but some other universities will be investigated to offer a more comparative perspective of this research.

3.3.2. Data classification and analysis strategy

Because this thesis covers an extensive period, various kinds of data have been collected. Such data needs to be managed carefully to produce coherent and reliable findings effectively. Box 3-1 shows how the dataset is categorised and managed. As expected, not all data can be strictly classified into one category. In this case, I chose the most representative category. This thematic classification of data worked as the initial analysis process. I reviewed collected data when identifying it. To do so, the quality of data was considered as well as its context. Furthermore, for each theme, I tried to collect various types of data, which reflect different aspects of each theme. Such a process made the triangulation process easier. Triangulation refers the ‘employment of different data sources and collection procedures to examine the

Box 3-1 Identification of collected data

The following four-tier assignment system is used to identify collected data:

Country and Period:

K for South Korea

S for Singapore

Followed by:

T1 for the colonial and transition period, until the 1950s and 1960s

T2 for the developmental state period

T3 for the post-developmental state period, from the mid-1990s onward

Theme:

EDU for general education-related data

DEV for general urban development-related data

YSU for Yonsei University

NUS for the National University of Singapore

KRU for other universities in Korea

SGU for other universities in Singapore

Data Type:

INT for recorded and transcribed interviews

INN for not recorded but noted interviews

DOC for various kinds of documents not applicable to other types below

STA for statistics

NEW for newspaper articles

FIG for figures such as maps, plans, computer generated imaginaries

ORA for oral history interviews

Sequences:

01, 02, 03, ...

For example, a recorded interview in relation to the development of Songdo Campus of Yonsei University in the 2000s will be identified as **KT3-YSU-INT-01**. A territorial development plan of Singapore in 1980 will be labelled as **ST2-DEV-FIG-01**.

same research issue', and such data needs to be complementary (Hoggart et al., 2002: 70). By keeping checking the proportion of data by its kind, I could focus on finding relatively underrepresented data to provide a more comprehensive view of research themes eventually. It also helped make the coding process easier.

For aiding the analysis, the categorised data was coded. Due to the diversity of the data utilised for this research, coding was essential for data reduction by grouping data. Box 3.2 shows the analytic codes set up for the coding process. The codes were made based on identified themes

Box 3-2 Themes for indexing and charting interviews and other field data

E: Education-related topics

- E1. History of the higher education sector
- E2. Status of the higher education sector
- E3. Government policies and actions on universities
- E4. University operation structure
- E5. University finance
- E6. Relationship between civil society and university

D: Urban and economic development-related topics

- D1. Government policies and actions on urbanisation processes
- D2. Relationship between university, state and private sector for urban development
- D3. View on knowledge-led urban development process
- D4. View on university as an urbanisation actor
- D5. Wider impact of university on the built environment

Y: Yonsei University-specific topics

- Y1. General history and status
- Y2. Main campus development
- Y3. Reason for campus expansion
- Y4. Expansion process
- Y5. University-involved real estate development projects

N: National University of Singapore-specific topics

- N1. General history and status
- N2. Main campus development
- N3. Reason for campus expansion
- N4. Expansion process
- N5. University-involved real estate development projects

U: Other university-related topics

- U1. History and status of a university
- U2. Expansion process of a university
- U3. University-involved real estate development projects

in the earlier stages of research as well as the theoretical framework. Analytic codes not only offer surface-level information but also help the researcher investigate the processes and the context of certain events (Cope, 2010). I used the computer software NVivo to facilitate this process. To gain a deeper understanding of data, I conducted a semiotic analysis where appropriate, such as on previous interviews with university presidents and speeches of the Prime Minister and President. As proposed by Crang (2005) and Hoggart et al. (2002), semiotic analysis can be a useful method for investigating signs in a text by constructing

meaning reflecting a particular time and place. Different levels of meaning of text are investigated in this method, for example: reality, representation, and ideology (Hoggart et al., 2002: 162). The meanings are considered as relational. By considering the relationship between codes from different levels and their contexts, an analysis thus can be developed further (Crang, 2005). Such a strategy is useful when investigating the emerging cultural aspects of political economy as shown by Jessop (2004).

Summary

This chapter introduced the methodological concept and data collection and analysis strategies for this study. The first section focused on justifying the rationale for conducting a comparative case study for this research and the process to choose cases for comparison. Differences existing within development in East Asian suggested using a comparative case study approach as the research method of this study. A comparative case study approach has the strength to address broad topics of contemporary interest through a cross-case analysis (Yin, 2009b: 259). On the other hand, doing a comparative case study in the East Asian context means not only investigating similarities and differences between cities in East Asia but also tackling the current division of urban theory between First World and Third World cities. For doing so, this research conceptualises the university as an emerging urban growth actor and examines how this role evolves in variegated urban development processes in East Asia. It aims to show different stages of spatial development of universities and cities in East Asia by comparing universities in Seoul and Singapore. By comparing universities in two different contexts within the East Asian developmental state, this research is expected to investigate various trajectories of the East Asian developmental state by building more compelling and robust research than that provided by a single case design, as Yin (2009a: 53) argued.

The second section discussed the various data collection methods employed in this research. Three major sources were identified and collected through the data collection process:

documents, including quantitative data, semi-structured interviews, and observation. Various primary and secondary documents were collected, and a total of 42 were interviewed for this study. Both purposive and snowball sampling methods were used to identify potential interviewees during fieldwork. As Flick (2007) mentioned, using a flexible approach was helpful to gain new insights from my data collection process. In the end, an unobtrusive observation was mainly conducted during my stay within the NUS campus for three months. These data sources complement each other to increase the validity and reliability of research findings. Several strategies have been utilised to facilitate the collection process. In South Korea, previously established contacts were helpful for locating and gaining access to interviewees and written materials. In Singapore, the exchange programme in NUS was especially helpful for engaging with the field and building rapport. It is hard to evaluate my strategies to access different fields and collect data. However, since my research focuses on comparative analysis of two different contexts, I tried to acquire as similar as possible a quantity and quality of data from different fields during my data collection process in order to produce balanced outcomes.

The last section provided an overview how data is utilised and analysed for this research. Research outcomes are always related to a researcher's understanding of 'what knowledge (ontology) and how it is derived (epistemology)' (Hoggart et al., 2002: vi). This concept is often defined as 'situated knowledges', as defined by Haraway (1988). Research findings can be 'the product of specific embodied knowers, located in particular places and spaces' (Mansvelt and Berg, 2010: 338). In this regard, how I can establish the validity and reliability of my research needs to be considered when doing research. As mentioned above, I attempted to collect a variety of data to improve the reliability of my findings by providing a 'thick description' of themes with in-depth contexts and understandings as proposed by Mansvelt and Berg (2010). However, I did not aim to produce findings as 'transparent' representations of 'reality' because all research needs to be considered as a social product (Hammersley and Atkinson, 2007: 130). This is particularly because, as elaborated in the early part of this chapter,

comparative urbanism is not just a method but a mode of thought. As Robinson (2011, 2016) actively advocates, by opting out of quasi-scientific understandings of causality, we may have a better understanding of cities and their urbanisation processes by diversifying the scope of comparison. In this regard, the analysis of this thesis aims to offer in-depth and diverse understandings of cities through comparison.

From the next chapter, I will present findings from this research from the colonial period as an attempt to diversify our understandings of colonial cities by utilising the theoretical framework and the methodology of this research.

Chapter 4: Universities in East Asian cities under the colonial rule

4.1. The birth of the modern university in colonial Korea

4.1.1. Colonial universities in Korea

4.1.2. The rapid growth of private universities after liberation from Japan in 1945

4.1.3. Urbanness of colonial universities and private universities after liberation

4.2. Universities in colonial Singapore and in the early independence era

4.2.1. Universities in the colonial and transition era

4.2.2. The early independence era and state intervention

4.2.3. The built environment of universities in colonial Singapore

4.3. Comparative analysis of colonial universities in Korea and Singapore

4.3.1. The colonial university as a socio-political institution

4.3.2. The space of the colonial university and thereafter

It is a common fallacy to say that today the East is awake. [...] During the last hundred years, a little moment in the life of the world, mechanical inventions have revolutionised the life of the West. The East is alert to the hoot of engines and the throb of aircraft and to the civilisation they have produced and it turns to the West for modern science and new political systems. It is crying for a message on nationalism, on the ideals of civilisation. The only men who can give a disinterested answer to that cry are the men of learning, the humanists, the philosophers, the scientists. That is a good reason why Singapore should have a University. – The address of Raffles College Founding Principal Dr Richard Olaf Winstedt at the opening ceremony of Raffles College in July 1929 (*Singapore Free Press and Mercantile Advertiser*, 1929: 9)

All the considerable financial undertakings in Korea are our own [...] American influence is as great as it could be unbacked by any show of force. It is probably as great as we have any desire it should be. – Excerpt from then US diplomat and Christian missionary Dr Horace Newton Allen's letter to the US in the 1900s, rearranged by Harrington (1944: 196–197)

Both of those quoted here are considered as key players to initiate higher education in Singapore and Korea respectively, but these quotations are conflicting. The one depicts East Asia as a place that the West should enlighten. The other depicts East Asia as a place that the West can exploit. Such difference implies that despite the common conceptualisation of colonial cities as conflicts between the coloniser and the colonised, there were diverse interests and power relations in colonial cities. This chapter, as the first empirical one of this thesis, examines the birth of colonial universities and their initial growth processes by focusing on the power relations in colonial Seoul and Singapore.

By examining the university in the urban process before the emergence of the developmental state, this chapter aims to provide an alternative approach to facilitate the understanding of the urbanisation process under the developmental state: the studies of East Asian developmental states mostly focused on economic development of countries since the 1970s. Thus, there is a disjuncture between the colonial era and what comes after that. The historical development of universities in Korea and Singapore shows how such a rupture overlooks the path-dependent

nature of the socio-economic conditions of society and offers a myth of the state as a single dominant factor in economic and urban development.

4.1. The birth of the modern university in colonial Korea

4.1.1. Colonial universities in Korea

Historically there have been a few higher education institutions in the Korean peninsula, but it is difficult to find a direct link between these institutions and contemporary universities in Korea. Historical records show that there were several higher education institutes such as the National Confucian Academy, which was called ‘Seonggyungwan’ in Korean. It was established in 1398 and served its function for about 500 years under the Joseon Dynasty² (Sungkyunkwan University, 2001). In 1895, then, when a group of Koreans tried to transform the country by their own, they attempted to create a 3-year degree programme named ‘Kyung-Hak’ with a modernised school system (Choi, 2007). However, such efforts could not be realised in the end because of Japanese colonial rule, which began in 1910. On the other hand, there were efforts from other groups to establish universities such as Union Christian College in Pyongyang in 1906 (*Korea Daily News*, 1906). As the college name implies, Christian missionaries from the West took the lead in this process. Several mission schools founded by Christians had been operating under the three-decade long colonial rule with relatively few conflicts with the colonial government.

Under colonial rule, the higher education sector in Korea failed to achieve its growth because the Japanese colonial government suppressed the growth of the sector. Education policies, in general, had been vocational, discriminatory, anti-liberalised, and anti-Korean culture trends, even though they partly contributed to introducing modern knowledge into mass society (Ku, 1985). The colonial government issued the first Educational Ordinance in Korea in August

² Also, popularly spelled as Chosun Dynasty

1911. The ordinance introduced different education streams for Japanese and Korean populations and discriminated against Koreans by offering them only elementary education (K-H Lee, 2010). There was no definition of the university in the ordinance, which meant that it was not possible to establish and operate university under colonial rule. The most advanced school was categorised as a 'professional school', but the government did not set up rules for professional schools, so that schools operating at that time were not able to be recognised as professional schools by the government. Four years later, in 1915, the Regulations for the Professional Schools were enacted, followed by the approval of four schools. They were all operated by the colonial government and focused on practical and technical education, including subjects such as law, medicine, industry, agriculture and forestry (Abe, 1971).

Christian mission schools were also one of two important pillars of higher education on the Korean peninsula. The first private schools recognised by the government in 1917 were Chosen³ Christian College (Yonhi Professional School) and Severance Union Medical College, both established and operated by missionaries. Severance Union Medical College is known as the first higher education institution in Korea built by missionaries. It started to teach Western medicine to 16 students in 1886 at Jejoongwon hospital (HW Park, 2016). Chosen Christian College was founded in 1915 through cooperation between different Christian missionaries including Presbyterian and Methodist churches from North America

The two schools were not extraordinary cases. By 1910, about 800 schools were known to operate on all levels, having 41,000 students in total taught by Christians from the US and elsewhere (Kim, 1995). The number of students was about twice that educated by government schools (ibid.). Ewha Hakdang in Seoul and Union Christian College in Pyongyang were two of the earliest higher education institutes in Korea; they were approved as professional schools

³ 'Chosen' is the Japanese name of Joseon.

in the 1920s. Education and medical missions were the main strategies of the Western missionaries, who were mostly from the US since Korea opened its port to the Western power. Missionaries were allowed to operate their schools under the colonial government using their prominent positions in Korea. Before the annexation of Korea by Japan, missionaries were permitted to open their schools after treaties between Korea and Western countries, such as the treaty with the US in 1882. The rapid growth of Christian schools was made possible not only due to the overwhelming demand for education but also owing to shared beliefs between the Korean nationalist reform movement and Christian missionaries against the threat from Japan (Kim, 1995; SH Lee, 2004). Even after Japanese colonial rule began in 1910, the missionaries could continue to operate because their missionary activities were at a certain level of protection. Two conventions between the US and Japan in 1905, the Treaty of Portsmouth and the Taft-Katsura Memorandum, show this relationship. By adopting a neutral stance against the oppressive colonial rule of Japan, most missionaries were able to operate their schools until the US-Japan relationship worsened in the period before the Second World War. The colonial government also believed that Koreans would eventually accept Japanese culture, which radically followed the Western model, by accepting Western culture (Yoo, 2008). On the other hand, for Koreans under the colonial rule, mission schools were one of few places where Japanese education could be resisted while enlightened nationalism could be promoted (SH Lee, 2004). Such diverse relationships imply the duality of missionaries in Korea.

While mission schools remained as college-level institutions, the first colonial university was established in Seoul by the government in 1924. After the massive, national-scale independence movement in 1919, the colonial government decided to relax its discriminatory education policies and issued an amended educational ordinance in 1922 which enabled the establishment of a university. From then on, there was a nationwide movement among Korean elites called 'the People's University Campaign' to create a public university. This effort eventually failed because of the oppression by the colonial government, but the campaign

became a catalyst for subsequent nationalist movements and forced the colonial government to set up an imperial university named Keijō⁴ Imperial University (Abe, 1971; SH Lee, 2004). This was the sixth imperial university for Japan and the first one outside Japan. Because the university was founded as a colonial institution, it was inevitable that the university needed to serve the needs of empire. Other than the purpose of providing higher education to Japanese living in Korea, its two primary purposes were to hinder the growth of Korean nationalism and to nurture the pro-imperialist Korean elites (SH Lee, 2004).

Overall, until the end of the colonial rule, the higher education sector was not able to grow considerably. The number of Korean students enrolled in postsecondary education was only 2,682 in 1937 out of a total population of 21.7 million (0.01 per cent of the total Korean population), while there were 2,086 Japanese in Korea enrolled in postsecondary schools in the same year out of 629,512 Japanese in Korea (0.33 per cent of the total Japanese population in Korea) (Japanese Government-General of Korea, 1939). The tertiary education enrolment rate in the 1930s was estimated to be around 0.14 per cent.

Table 4-1 shows the composition of tertiary-level education students in 1937. This shows the situation before the colonial government issued the third educational ordinance, which contains more militaristic aspects than the previous ordinance. Based on the table, Koreans were mainly educated in private schools. Mission schools were prominent in the early colonial years. For example, 72.6 per cent of professional school students were studying in mission schools in 1928 (ibid., 1930). Even though its operating bodies became more diversified in the late colonial years, the first professional schools kept playing an important role in higher education. 46.7 per cent of Korean students were concentrated in the three schools Yonhi, Ewha and Bosung in 1937. These schools also played a significant role in shaping the higher

⁴ Keijō is the name of Seoul used under the Japanese colonial rule. Seoul was previously called Hanyang or Hanseong for several centuries until the end of Joseon Dynasty. Then, Keijō (Gyeongseong in Korean) became the common term used under the colonial rule. After liberation, Seoul became the official name of the capital.

Table 4-1 Number of students enrolled in higher educational institutions in Korea in 1937 by nationality and school type

Nationality	Keijō Imperial University	Professional schools			Total
		Government	Public	Private	
Korean	161	437	198	1,886	2,682
Japanese	355	855	372	504	2,086
Total	516	1,292	570	2,390	4,768

Source: Japanese Government-General of Korea (1939).

education sector after the liberation of Korea. Government schools were more likely to receive Japanese students by restricting the entrance of Korean students. Such a composition clearly shows the colonial aspect of government schools and the education system during the colonial era.

4.1.2. The rapid growth of private universities after liberation from Japan in 1945

After the Japanese government surrendered in 1945, the socio-political situation in Korea changed dramatically, and universities were no exception. After Japan's surrender, the Korean Peninsula was divided into north and south, with the Soviet Union in the north and the United States Army Military Government in Korea (thereafter USAMGIK) in the south. The USAMGIK temporarily closed all higher education institutions and created new regulations for the establishment and operation of universities. After the new regulations were enforced, the number of universities and students increased sharply. As shown above, while there were 4,768 students at higher education institutions in 1937, the number dramatically increased in the following decade, reaching 19,241 in 1947, and 96,954 in 1956 (Korean Ministry of Education, 1977; USAMGIK, 1948). This increase was largely led by private universities under the consent of the USAMGIK which opted to save budgets on higher education while fulfilling the growing demand for higher education (Kang, 2003).

Table 4-2 Changes in the number of higher educational institutions and students in South Korea (1945–1948)

Year	No. of HEIs	No. of teaching staffs	No. of students
May 1945	19	908 (All)	6,948 (All)
		261 (of Koreans)	3,039 (of Koreans)
Dec 1945	21	753	7,110
Sep 1946	21	977	16,317
Sep 1947	26	1,938	19,241
Dec 1947	31	2,014	20,729
Aug 1948	42	1,265	24,000

Source: Kang (2003: 157).

The reasons why many private universities were established during the USAMGIK era can be due to the following reasons: the explosive demand for higher education after liberation; the lax higher education policy of USAMGIK; the exemption of university students from military service; the intention of elite groups to expand their influence (Kang, 2003; Ji Kim, 2012; Lee, 1992). Table 4-2 shows the expansion of the higher education sector from 1945 to 1948. In December 1947, 23 out of the 31 universities (74.2 per cent) in operation in South Korea were private (Kang, 2003). The rapid increase in the number of universities and students also caused several problems. For example, universities allowed unqualified students to fill the entrance quota since the total entrance quota of universities already exceeded the number of general high school graduates in 1953. Private universities in South Korea, thus, already exhibited profit-oriented actions. Such an anomalous structure of the higher education sector shaped the way in which private universities in South Korea operate today.

Christian mission schools established under colonial rule developed rapidly in particular after liberation with the support from the USAMGIK initially and then the Korean government. The US military government did not have sufficient knowledge and understanding of the educational situation and educational system in Korea. Thus, in the process of establishing educational policies, it was necessary for the government to utilise existing educators in Korea with pro-US tendencies. In this regard, the USAMGIK established the Korean Committee on

Table 4-3 Changes in the number of students of selected universities in South Korea (1937–1963)

University		1937	1947	1963
Seoul National University		2,567 ¹⁾	7,206	10,284
Yonsei University ²⁾	Chosen Christian College	444	1,021	5,082
	Severance Union Medical College	183	468	
Ewha Womans University		266	1,270	7,151

Source: Adams (1964); Japanese Government-General of Korea (1939).

Note: 1) The number is the sum of professional schools and Keijō Imperial University, which are considered to be the parent institutions of Seoul National University; 2) Chosen Christian College and Severance Union Medical College were merged together in 1957 to form Yonsei University.

Education in September 1945, only a month after liberation, as a core group to formulate education policies in South Korea. Looking at its composition, six out of ten committee members were Christian, including college presidents from Chosen Christian College, Ewha College for Women and Bosung College (TM Kim, 1986). In August 1946, Chosen Christian College and Ewha College for Women as well as Bosung College were approved by the USAMGIK as the first three universities in South Korea, and were renamed Yonhi University, Ewha Womans University and Korea University, respectively. These three universities monopolised the financial aids for private schools from the West and used them as a foundation for their expansion (Brazinsky, 2007). As shown in Table 4-3, the enrolment sizes of these private universities had expanded enormously since liberation.

While the rapid growth of private universities since liberation was impressive, the most remarkable change in the higher education sector was the birth of the national university. The USAMGIK established Seoul National University in 1946 as the first national university in the country by merging Keijō Imperial University, nine government professional schools and one private professional school. The decision to merge them was largely related to the political circumstances on the Korean peninsula. The USAMGIK used this opportunity as a way of combatting communist influence in the education sector, especially in higher education, by excluding communists from this institution (JI Kim, 2012; TM Kim, 1986). In the course of

protesting the implementation of the above plan, 380 out of 429 professors were expelled (TM Kim, 1986). In this regard, the establishment of Seoul National University could be regarded as a highly political decision of the USAMGIK. From then on, Seoul National University grew with substantial support from the state. Foreign aid after the establishment of the national government concentrated on the national university. From 1955 to 1958, 55.7 per cent of all education aid from the International Cooperation Administration (ICA) from the US, which was one of the two major grant agencies, was invested in Seoul National University (Korea Ministry of Reconstruction, 1959). This level of support from the US has had a profound impact on transforming Seoul National University into a pro-US institution while achieving a massive expansion.

4.1.3. Urbanness of colonial universities and private universities after liberation

The higher educational institutions in colonial Korea were only found in cities, especially in Seoul because they were subordinate to the political and economic centre. In 1937, out of the total 18 higher education institutions, 12 were located in Seoul. 81.7 per cent of total students attended these 12 schools in 1937 (Japanese Government-General of Korea, 1939). The other schools were also located in urban areas. This degree of concentration was significant, considering that only 11.0 per cent of total Korean population was living in Gyeonggi Province, where Seoul was located (ibid.). It could be assumed that the Japanese population was concentrated in Seoul so that the colonial government opened schools in Seoul. However, the distribution of the Japanese population in Korea defied this assumption: only 25.3 per cent of the total Japanese in Korea were living in Gyeonggi Province in 1937 (ibid.). Such concentration in Seoul could be somewhat expected when considering the position of Seoul as the political and economic centre of the Korean peninsula since the Joseon Dynasty.

Christian universities as active negotiators

The establishment of Chosen Christian College was affected by the geographic division between different missionaries. In the early days of the Western mission to Korea, the peninsula was divided by six different Christian denominations from North America and Australia. They agreed not to intervene in each other's territory, but large towns were excluded from this agreement (Park and Kim, 2009). The Christian mission in Korea was most successful in the northwest region, where the Presbyterian Church in the United States of America (PCUSA)⁵ was in charge. More than 60 per cent of all Korean Christians were living in the region where the urban-based middle class began to form (Kim, 2005). The mission was based in Pyongyang, and was known for its fundamentalist approach (ibid.). For example, the Union Christian College in Pyongyang was opened in 1906 by the PCUSA, and only accepted Christians and focused on Christian education rather than modern liberal education (K-H Lee, 2010). This fundamentalist approach is considered one of reasons that the PCUSA grew slower than the Methodist Episcopal Church (Northern Methodists) in Seoul (J-K Choi, 2012b). Other missionaries were more flexible in their mission so that they pursued mutual recognition rather than competition with the colonial government (Park and Kim, 2009). When the colonial government first attempted to control mission schools in 1915 by banning religious activities within them, the PCUSA group in Pyongyang resisted most heavily, while others sought a compromise solution (Kim, 2005). Such a tendency also continued until the end of colonial rule. The PCUSA's school in Pyongyang was the first school closed by itself against the enforcement of shrine worship in 1983.

In this regard, for Western missionaries in Korea, the debate about where to establish a Christian university was related to the power struggle among them. The attempt to establish a new university in Seoul began by Horace Grant Underwood from the late 1880s (Lee, 1991). He then led a minority group of the PCUSA mission in Seoul and the Methodist Episcopal

⁵ It is often called the Northern Presbyterian Church. In the case of the Southern Presbyterian Church, its original name was the Presbyterian Church in the United States (PCUS).

Church (Northern Methodists) to establish a liberal arts college in Seoul as a joint mission since 1906 (ibid.). The majority of PCUSA missionaries in Korea rejected it since they were already operating one college in Pyongyang and had limited resources for another school (J-K Choi, 2012a). Moreover, the concept of a university for them was pastoral and secluded from a crowded city (ibid.) Thus, Seoul was not considered as an appropriate site for a university for Korea by missionaries based in Pyongyang. Missionaries in Seoul justified the establishment of the college in Seoul by arguing that it had good accessibility for students and missionaries from different regions by rail, and it was the centre of religion, culture, commercial, industry and education as the capital of Korea (ibid.). This issue was highly debated until 1914,⁶ when the Executive Committee of the Board of Foreign Missions of the PCUSA decided to establish a university in Seoul while Union Christian College was permitted to keep operating in Pyongyang (ibid.; HW Park, 2016).

The significant Christian support from the US was crucial for establishing the campus of Chosen Christian College, but the support from the colonial government also could not be ignored. The college started to teach students in the YMCA building in downtown Seoul in 1915 before moving to the current location in 1918. Most of the funds for new campus were donated from Christians in the US, such as John Thomas Underwood, who donated USD 52,000. The architectural firm Murphy & Dana from the US, which designed several notable educational institutions in China, Japan and the US, was appointed as the planner of the new campus, and the construction was led by a Chinese contractor (Cody, 2001). The area was called Sinchon. It was mostly rural and not within the administrative district of Seoul at that time, but it was only three miles from downtown with a good accessibility by rail. The size of the land for the new campus was around 80.9 hectares, which was significant when compared

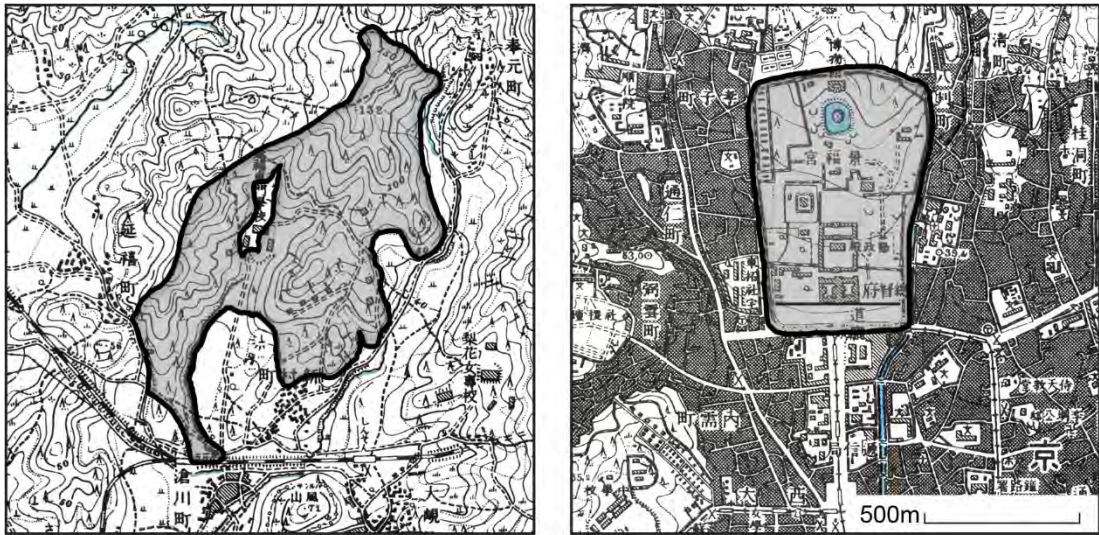
⁶ The documents and letters exchanged in relation to the establishment of a new university in Seoul are kept in the Presbyterian Historical Society in Philadelphia, PA under the file 'College Questions'. These documents account for the largest volume of Korean mission documents in the archive (J-K Choi, 2012b).

with other landmarks in Seoul such as the royal palaces as also shown in Figure 4-1 (Conference of Federated Missions (Japan), 1919).

The colonial government played a crucial role in the university acquiring a large site. According to letters exchanged by Horace Grant Underwood and the Headquarters of the PCUSA in New York, the colonial government proposed the current site initially, but while the debate about the establishment of a university in Seoul was going on, the government decided to use the site for public recreation (Underwood, 1913, 1914). Instead, the government proposed three sites of about 120 to 200 hectares to Underwood, but Underwood began to negotiate to purchase it from the government with Midori Komatsu, who was then the Director of Foreign Affairs of the Japanese Government-General of Korea (ibid.; J-K Choi, 2012a). Before coming to the Japanese government, Komatsu studied at Yale University and Princeton University, which shows his favourable attitude to people from the US (J-K Choi, 2012a). According to the document published by the Forest Management Department, the government eventually sold the land to the college in 1917 (Forest Management Department in Japanese Government-General of Korea, 1917). This negotiation process shows that the colonial government did not always suppress the missionaries at least in its early period. It rather shows that the colonial government pursued mutual recognition with Christian missionaries in Seoul.

Missionaries intended to develop the area, where the college was located, as a Christian enclave by creating a campus town. The area was underdeveloped, and its campus site was largely rural surrounded by forest (see Figure 4-1). Thus, it was a favourable location to promote the idea of a Christian enclave. One of the programmes reflecting such idea was called the 'model village programme', which was for the wives and families of married students. By having a church, schools for wives and children, and other modern facilities, the college aimed to fulfil 'the needs of married students who after several years of college life have often returned to ignorant wives with resultant misery to all concerned' because the missionaries thought that there would be potential conflict between educated husbands and

Figure 4-1 Comparison of the land sold to Chosen Christian College and Gyeongbokgung

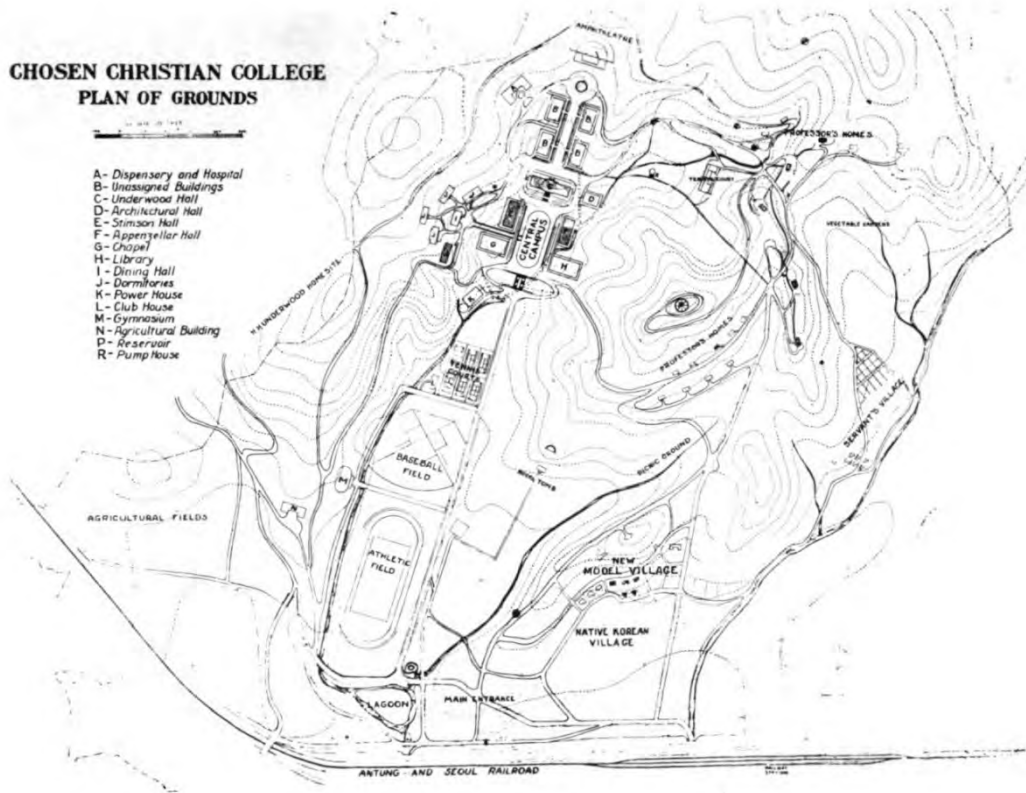


Land Sold to
Chosen Christian College in 1917

Gyeongbokgung

Source: Author's own depiction based on the Forest Management Department in the Japanese Government General of Korea (1917)'s Land Sale Document, which was based on a 1942 Map of Seoul.

Figure 4-2 Chosen Christian College master plan



Source: Underwood (1926: 137).

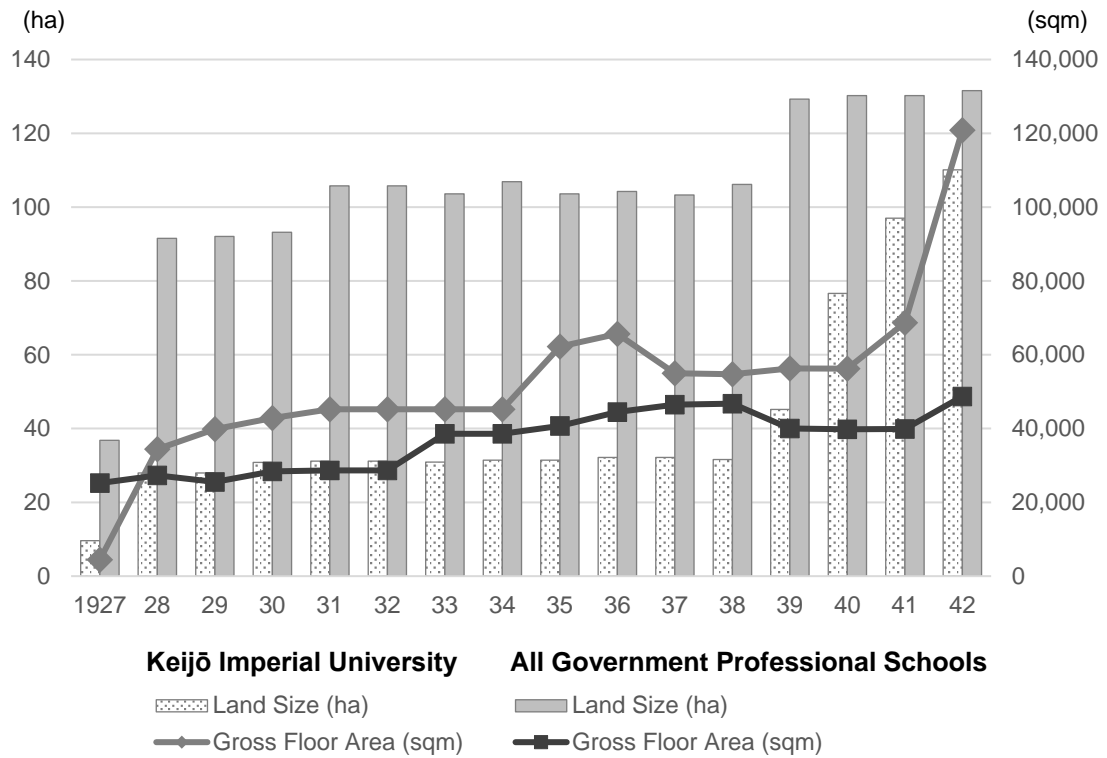
uneducated wives (Conference of Federated Missions (Japan), 1919: 329). As shown in Figure 4-2, the early master plan of the campus shows the location of the model village on campus. The plan was not fully realised due to lack of funds. Nevertheless, the idea of model village shows how missionaries imagined the campus as a space to promote their Christian beliefs.

This idea of a campus town was to concentrate Christian colleges in the same location and merge them into a single university. The discussion of unifying Chosen Christian College, Severance Union Medical College and Ewha College for Women had been in existence since their establishment and was fostered by O. R. Avison, who was the president of both schools (K-H Lee, 2010). It was difficult to pursue the idea of the merger because each school was established and operated by a different Christian denomination (HW Park, 2016). There was also opposition from the medical school, which highlighted the difficulties in attracting patients due to the long distance of the Chosen Christian College campus from downtown. (ibid.). Nevertheless, there had been some progress in the effort. Ewha College for Women, which was the higher educational institution for women established by missionaries, had already moved its campus next to Chosen Christian College in 1935, and the medical college also decided follow suit around 1940 (*Donga Ilbo*, 1940). However, such efforts by Christian missionaries could not be developed further due to the intensifying militarism of Japan during the war period.

Keijō Imperial University as a state actor

Keijō Imperial University, as a symbolic colonial institution, enjoyed its privileged status and expanded rapidly than any other schools in Korea. In 1937, the operating expenditure of Keijō Imperial University by the colonial government was 47.8 per cent of the total expenditure of all kind of government schools in Korea (Jung, 2009). As shown in Table 4-1 above, in 1937, Keijō Imperial University had only 516 students, which were less than half of all the students in government professional schools, but its expenditure per student was 5.6 times more than government professional school students (ibid.). The relatively generous support from the

Figure 4-3 The physical growth of campuses of government higher education institutions (1927–1943)

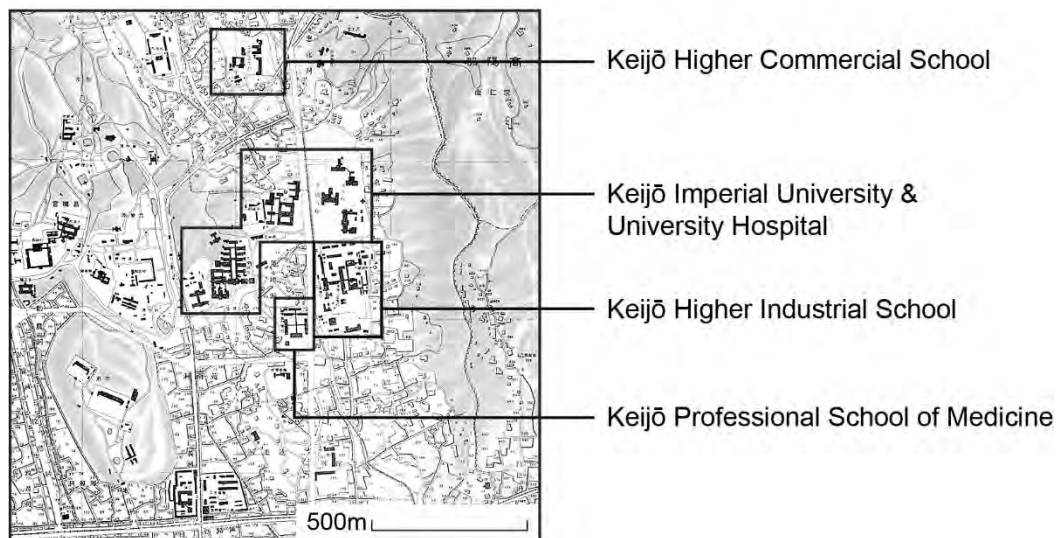


Source: Japanese Government General of Korea (multiple years, retrieved from <http://kosis.kr/>)

colonial government enabled Keijō Imperial University to expand rapidly, while the expansion of the five government professional schools was stagnant. Figure 4-3 shows how fast Keijō Imperial University expanded its campus. Its campus was located in an urban area that was relatively less developed than other parts of Seoul. Then, it opened its new Science and Engineering department in 1941 in a suburban area, which resulted in a massive increase of its campus size. Overall, the development of Keijō Imperial University campus, along with neighbouring government professional schools, was an important factor to accelerate the development of the northeast area of Seoul at that time (Joo, 2012).

The difference between Christian universities and Keijō Imperial University as an urbanisation impetus can be observed in the urban planning documents written by the colonial government. Seoul lost its status as the capital of the Korean peninsula and remained as the provincial capital of Gyeonggi-do, but it was still the political and cultural centre of Korea. In particular,

Figure 4-4 Keijō Imperial University and other government schools complex in Seoul



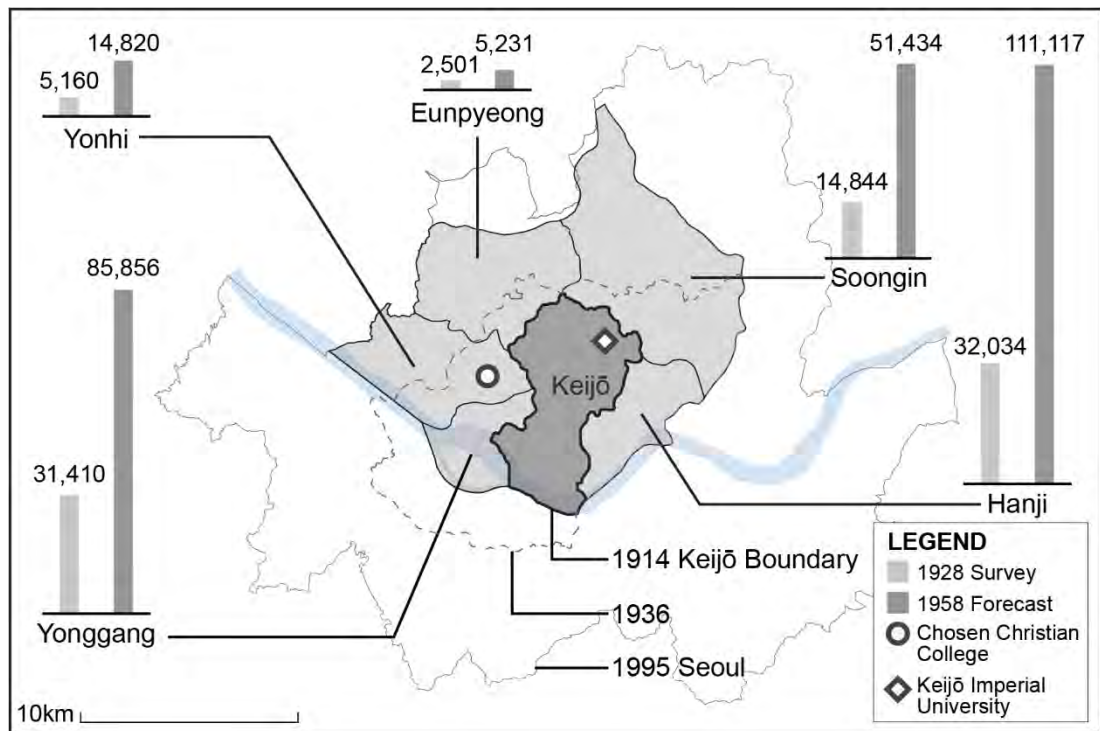
Source: Author's depiction based on the Japanese Government-General of Korea's 1933 Map of Seoul.

the area currently called University Street,⁷ where the imperial university was located, became the education complex of colonial Korea. The government located several government schools in the area as shown in Figure 4-4. The reason why the government located the schools in that area was due to the availability of a large plot of land to acquire because the area was a previously underdeveloped area in Seoul before colonial rule (Joo, 2012). In this regard, the colonial government had built public infrastructure in the area since 1912 and placed government schools there. Such a strategy seems to be consistent with the government plan to expand the urban area toward the north-eastern part of Seoul at the time (Yeom, 2016). This strategy was more evident in the 1930s, when the government began to build schools further northeast including the imperial university's science and engineering department in 1941 (Joo, 2012).

On the other hand, Chosen Christian College was less relevant to the urban development strategy of the colonial government. Sinchon area was eventually incorporated into Seoul in 1936, but the major development axis of Seoul was from the southwest to the northeast where new industrial zones were being promoted. The report written in 1928 by the colonial

⁷ Daehak-ro in Korean

Figure 4-5 The 1928 population distribution and 1958 forecast of Keijō's surrounding vicinities



Source: Author made based on the Colonial Government of Seoul (1928).

Note: Keijō's population in 1928 was 336,354 and expected to increase to 508,704 in 1958.

government of Seoul also supports this idea (Colonial Government of Seoul, 1928). The report surveyed the vicinities of Seoul for the future expansion and forecasted the future population growth of the areas. Figure 4-5 shows the population growth forecast of Seoul and its vicinity over 30 years in 1928. While Soongin-myeon, the northeast vicinity, was expected to increase of its population 3.5 times from 14,744 to 51,434 over 30 years from 1928, Yonhi-Myeon, where Chosen Christian College was located, was only expected to grow 2.6 times from 5,670 to 14,820 (Colonial Government of Seoul, 1928). Overall, the increase rate of the eastern part of Seoul was estimated to be lower than other parts of Seoul at the time.

Land reform leading to a steep increase in private universities

After the liberation of Korea in 1945, it is worth noting the steep increase in the number of private universities. This was closely related to the land reform process in South Korea. The Farmland Reform Act of 1949 aimed to redistribute excessive farmland owned by large landowners to small farmers in order to transform Korean society from semi-feudalism to

Box 4-1 Extract of Article 6 of the Farmland Reform Act of 1949

Article 6. The following farmland will not be purchased by this act.

[...]

Para. 4. Farmland that the government determined to be necessary to change the land use for government, public Institutions, and educational institutions

Para. 5. Self-cultivating agricultural land owned by recognised schools, religious institutions, or other welfare agencies, but other kind of land owned by educational foundations will be purchased through a separate regulation.

Para. 6. Agricultural land for special purposes such as teaching and research within the limits set by the government

[...]

capitalism (Jang, 2015; SH Jang, 2007). Any pieces of land larger than 3.0 hectares were purchased by the government and sold to peasants in the land reform, but there were special conditions for educational foundations as shown in Box 4-1. These exceptions were made possible by the demands of the leaders of educational foundations by forming an organisation and lobbied to protect their land (*Donga Ilbo*, 1949; Park, 2013). Then, the Special Compensation Act on Educational Foundations' Farmland was passed in 1951. The act includes an article to double the compensation in the case of farmland owned by educational foundations with other favourable options. The act, in fact, served to give land back to educational foundations equivalent to the doubled compensation they received (Kim et al., 1989). At the time, 198 educational foundations owned 12,893 hectares of land (*ibid.*). If the law had been enacted without this exception, a substantial amount of land would have had to be sold to the government.

This favourable compensation for an educational foundation led many landlords to donate their land to the foundations as a way to protect their assets as much as possible (Oh, 2004; Park, 2013). As a result, 775 cases received double compensation based on the special act, of which 64 per cent were educational foundations (Oh, 2004). At the same time, the number of universities increased almost five times, from 10 to 49, between 1943 and 1953 (Park, 2013). Not all of them were established because of the land reform process, but it is frequently argued by several academics that most private universities established between 1946 and 1950 except those established by religious institutions were related to large landowners (JI Kim, 2012; Lee,

1992; Oh, 2004; Park, 2013). Such a situation made the private university a land-based institution for protecting the wealth of the founders rather than for educating students. This is an important element explaining the nature of private universities in South Korea. Such a result might not be surprising considering the fact the USAMGIK and Korean politicians were hesitant to conduct the land reform in the beginning since they had a close relationship with large landlords (Kim et al., 1989).

Furthermore, the land reform process indirectly influenced the improvement of the education level positively, by transforming peasants into landowners, who became able to provide more stable support for their children's education (S-H Jang, 2007; Park, 2013; Seo, 1987). Right after liberation in 1945, there were only 7,819 university students, but in 1960, 15 years later, university students increased by 12.9 times to 101,041 (Kim et al., 2000). Considering that Korea was suffering from the Korean War in the 1950s, such an increase in enrolment shows that the demand for education was explosive after liberation. Empowered peasants also supported this trend. In this regard, the land reform supported the growth of private universities in two ways: by increasing the number of private universities and by supplying students for them by meeting demands of different class groups.

Overall, even though urbanisation was not an objective of higher education institutions in Korea, they had a visible impact on the urbanisation process of Seoul under colonial rule, when Korea began to urbanise rapidly. The reason why higher education institutions were mostly located in Seoul is related to their dependency on socio-political conditions. Seoul has been recognised as the centre of Korea in terms of politics, economy and society for several hundred years. There were also practical reasons that schools needed to recruit staff and students easily when considering the case of the Chosen Christian College. The short distance between the government building and the government schools was necessary for the government to easily control them, while the imperial university had a symbolic character for the government. In this respect, universities should be considered to be subordinate to the city under the colonial rule. However, once a school settled down, it became an important element of the area and

shaped the surrounding environment. Now Seodaemun-gu, where Chosen Christian College is currently located, has eight universities, which is the largest number among the boroughs in Seoul. The area where the imperial university used to be located is now called University Street, which is one of the cultural centres in Seoul.

4.2. Universities in colonial Singapore and in the early independence era

4.2.1. Universities in the colonial and transition era

As a small colony of the British Empire, a small number of higher education institutions such as King Edward VII College of Medicine and Raffles College were established and operated by the colonial government. The medical school was established in 1905. Raffles College opened in 1929, focusing on arts and science education. Both were mainly funded by the colonial government, but local elite groups also offered financial support. They were amalgamated and disaggregated over time as the political condition of the Malay Peninsula changed. While these universities were mostly affiliated with the colonial government, there was also Nanyang University, founded in 1953 by a Chinese industrialist to educate students in Chinese as an exception to the colonial norm. There was also an attempt by the Chinese society of the city to establish another higher educational institution, which was named the Ngee Ann College and was opened in 1963. This attempt was later interrupted by the government. The government downgraded the college to a polytechnic. In addition, there was also a polytechnic named Singapore Polytechnic founded in 1959 by the colonial government to provide technical education, offering diplomas and certificates. The Teacher's Training College (TTC) was also established in 1950.

Higher educational institutions under colonial rule were in fact not only established for the colonial government itself. There was also a colonial need to found a medical school in order to supply qualified medical assistants for expatriate doctors from Europe (Gopinathan, 1989).

On the other hand, the colonial government established Raffles College as a reaction to the emerging needs for higher education of the English-educated Chinese elite and American missionary groups in Singapore (Gopinathan, 1989; Lee and Tan, 1996). The government rejected a proposal by the Malayan Mission of the Methodist Episcopal Church, which was based in the US, to establish a college in Singapore: the government was concerned that if the Americans founded the first college in Singapore, it might be a 'distinctive threat to British prestige' (Wilson, 1972: 99). After rejecting the proposal, the government was pressured to establish a higher education institution in Singapore for its own legitimacy. Local elite groups played an important role to found these institutions along with the colonial government. While the colonial government donated S\$1 million to construct the campus of Raffles College, Chinese industrialists Oei Tiong Ham and Tan Soo Guan donated S\$150,000 and S\$120,000 respectively (*Straits Times*, 1928). Overall, the Chinese benefactors donated S\$540,723 while Europeans donated S\$426,563 (Lee and Tan, 1996). In this regard, higher educational institutions in Singapore under colonial rule were highly political. They served not only colonial needs but also local needs. External forces were also influential at that time.

The British government in Singapore near the end of its colonial rule attempted to transform universities for its future benefit. The merger of Raffles College and King Edward VII College of Medicine is one case of this. In 1949, both universities were merged into a single university, the University of Malaya, by the colonial government as a reaction to emerging aspirations for self-rule and independence after the Second World War. The Carr-Saunders Commission, led by Sir Alexander Carr-Saunders, then Director of the London School of Economics and Political Science, proposed the merger. The idea to merge two colleges aimed to transform them to become similar to a British civic university, focusing on nurturing professional skills (Kim, 2007). In this regard, the new university had a pro-British inclination and focused on educating students to serve the colonial government of Malaya (*ibid.*; Lee and Tan, 1996). However, this plan was soon changed due to the changing political circumstances of the Malayan Peninsula. After the independence of the Federation of Malaya in 1957, the colonial

government tried to move the centre of the university to Kuala Lumpur, which was emerging as the centre of Malaya while Singaporeans wanted its own university (Lee and Tan, 1996). In the end, the university divided into two universities: the University of Singapore and University of Malaya in January 1962, after 13 years of operation. The merger and division of universities in Singapore can be seen as a result of a changing political circumstances, and the university has always been subordinate to these changes.

The political intervention of the government can also be found from the establishment of Nanyang University since 1953. While the University of Singapore served the needs of the colony, and later independent Singapore, through the English medium, Nanyang University was more like an institution promoting Chinese culture and identity (Wong, 2005). In Singapore, a Chinese-speaking university could be a threat to society, because the government promoted a multi-ethnic Singapore-centred identity by harmonising different races – namely, Chinese, Malay and Indian – even though 75 per cent of the total population in Singapore was Chinese at that time (ibid.). In this regard, the establishment of Nanyang University was not welcomed by groups in Singapore other than the Chinese. In this regard, the government could not show a complete objection because of overwhelming support from the Chinese (ibid.). The governor even attended its opening ceremony, but the government was more negative about supporting the idea of the university: Nanyang University had to be established initially as a private company instead of a university in the beginning (Lee, 2008). Moreover, the government did not recognise the degrees of most of the graduates of Nanyang University. Degrees were recognised from May 1968 after several conflicts between the government and the university committee (ibid.). Nanyang University was conceived as an ‘unwanted child of the colonial era’ as argued by a historian Edwin Lee (2008: 359). The government kept trying to intervene in the university affairs to make them align with the government ideology. In the end, Nanyang University merged with the University of Singapore, resulting in the establishment of the National University of Singapore. This merger will be discussed in detail in the next section.

4.2.2. The early independence era and state intervention

After Singapore became independent in 1965, the role of education was recognised as important for supporting the economic and social development of the country. At that time, the government suffered from a rising unemployment rate, which reached 9.0 per cent in 1966. Political unrest was also severe. The ruling party, the People’s Action Party led by Lee Kuan Yew, tried to solve these problems by generating jobs and offering a decent standard of living through the rapid industrialisation of the country (KY Lee, 2000). For Singapore, a country without resources, foreign capital, technology, and export markets were crucial to achieving this aim. The statutory bodies such as the Economic Development Board (EDB) and the Jurong Town Corporation (later the JTC Corporation) were established to support the industrialisation drive. The education sector was also not an exception: it supported the policy by supplying educated and skilled labour. In this regard, the Ministry of Education placed great emphasis on technical education after independence since the economy was based on low-wage industries. Several vocational institutes were established after the establishment of the Technical Education Department within the Ministry of Education in June 1968 (Gwee, 1975). Such an idea was easily found in government speeches. For example, Hon Sui Sen, the former chairman of the EDB and the then Minister of Finance, mentioned in a speech in 1971 that the government wanted to reorient students ‘from a white-collar to a more blue-collar mentality’ (Low and Lim, 2004: 424).

Table 4-4 The expenditure on higher educational institutions in comparison with the overall educational expenditure in Singapore

Year	Operating expenditure of HEIs		Capital expenditure of HEIs		Overall expenditure of HEIs	
	S\$ (,000)	%tot	S\$ (,000)	%tot	S\$ (,000)	%tot
1965	12,737,010	11.3%	520,979	3.0%	13,257,989	10.2%
1966	14,110,878	11.4%	1,513,910	8.3%	15,624,788	11.0%
1967	15,825,800	11.7%	492,290	2.4%	16,318,090	10.5%

Source: Singapore Ministry of Education (1966, 1967, 1968).

By 1965, two universities, the University of Singapore and Nanyang University, were in operation. The higher education sector was relatively small then. In 1965, there were 8,224 students enrolled in degree programmes in universities including polytechnics (Singapore Ministry of Education, 1966). The enrolment rate was three to four per cent at that time (Wee, 1970). However, higher education was not cheap. In 1965, the government spent 10.2 per cent of the Ministry of Education's expenditure on the two universities and Singapore Polytechnic (see Table 4-4). The departmental expenditure was larger than that of any other government departments at that time.

In this regard, the government also strictly controlled universities like other educational institutions. The government reorganised universities to support the industrialisation policy. Science and engineering departments were nurtured in particular. From 1965, the University of Singapore offered degree courses in accountancy, architecture and engineering jointly with Singapore Polytechnic, which used to offer only diploma-level courses. Then, in 1969, those programmes were fully transferred into the University of Singapore. It was believed that such departments needed to grow rapidly to support the growth of the country (Lee and Tan, 1996). Table 4-5 shows the growth of the number of science and engineering students in Singapore between 1961 and 1970. Several statements made by members of Cabinet stressed the supply of skilled graduates: Goh Keng Swee, the then Minister of Finance, raised this issue in the Budget Statement in 1970, pointing out that there is a gap between the supply of and the demand for scientists, engineers, and technicians and urged universities to nurture them to support the national growth (Goh, 1972). Lee Kuan Yew also stressed the importance of having strong science and technology faculties in universities (Lee, 1966). Overall, it was evident that there was a belief that the university should be aligned with and support the government to achieve national economic growth.

In particular, the rapid growth of the University of Singapore and its science, engineering and architecture schools was clear. More than half of students in the University of Singapore were studying one of the three disciplines in the 1960s, while the share for Nanyang University

Table 4-5 Science and engineering students in Singapore (1961–1970)

Year	University of Singapore			Nanyang University			Singapore Polytechnic		
	Sci & Eng+Archi	All	% of Sci and Eng	Sci & Eng	All	% of Sci & Eng	Prof. Eng'g & Archi	All	% of Eng'g & Archi
1961	1,046	1,763	59.3%	690	1,960	35.2%	376	686	54.8%
1965	1,713	2,870	59.7%	885	2,126	41.6%	349	666	52.4%
1970	2,585	4,660	55.5%	741	2,209	33.5%	49	49	100.0%

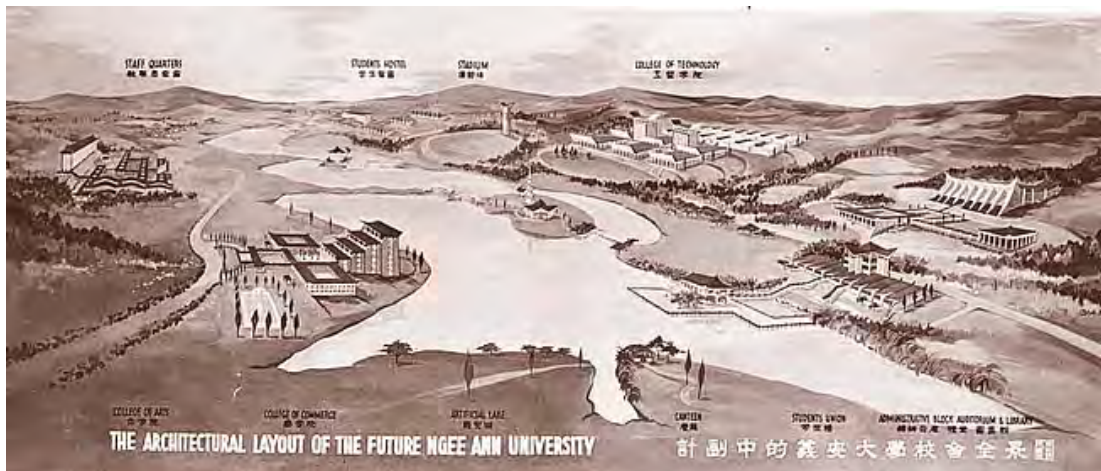
Source: Wee (1970).

was less dominant due to its origin as an institution nurturing Chinese merchants. The dominance of these disciplines continues in Singapore till now. In the case of Singapore Polytechnic, the number of students decreased between 1965 and 1970 due to the transfer of degree courses to the University of Singapore as explained above.

There was also an attempt to establish another university in Singapore by a Chinese clan during the self-government era. Nanyang University became recognised as a ‘troublemaker’ by the government since it still used Chinese as the teaching medium and housed radical students who caused social unrest. As a reaction to Nanyang University, there was an alternative movement among other Chinese societies in Singapore (Gopinathan, 1989; Lim, 1988). Ngee Ann Kongsi⁸ aimed to establish a college focusing on technical and commercial training and opened Ngee Ann College in May 1963 (Gwee et al., 1969). Its founders aimed to develop it as a university with high academic standards starting from college-level education (Lim, 1988). The founder Lien Ying Chow and the students of the college strongly supported the idea of becoming a university. Its expansion plan was already revealed to students as shown in Figure 4-6. However, Ngee Ann College needed to be aligned with the changing political environment of the Malay Peninsula, e.g., the merger of Singapore with the

⁸ Kongsi (公司) means a Chinese ethnic clan association.

Figure 4-6 An artist's impression of Ngee Ann University



Source: Lim (1988: 29).

Federation of Malaya in 1963. Ngee Ann College aimed to promote the great Malaysian culture instead of the Chinese one from the its opening (ibid.). It also accepted all races regardless of their languages by choosing Chinese and English as the teaching mediums, with some Malaysian courses.

Ngee Ann College's plan to become a university could not be realised in the end due to the changing internal and external politics. When the plan for the university was being developed, Goh Keng Swee, the Finance Minister, recommended for the school to consult Lucian W. Pye and Arthur L. Singer, who were professors from Massachusetts Institute of Technology and the Carnegie Corporation respectively, about its development plan (Chia, 2012). In June 1964, after consulting government officials and academics in Singapore, these professors proposed that the college needed to be a community college focusing on practical education in June 1964 (Pye and Singer, 1965). The demand from the government to support its industrialisation policy by supplying skilled technicians was very clear. However, while the report of Pye and Singer raised some valid points, the staff and students of the college could not easily accept the idea to downgrade the college into a community college. This conflict led to students protesting against the Kongsis by asking to continue its plan to develop the college as a university. The continuing conflict between the school and the Kongsis led the management

committee of the Kongsi to commission a committee, led by Thong Saw Park from the University of Malaya, with the government to formulate recommendations for the college.

At that time, the Kongsi itself was already doubtful about the idea of becoming a university. The newly elected Chairman of the Kongsi in 1965, Tan Siak Kew, was not confident to fund the school if it became a university since it would be too costly to operate (Gwee et al., 1969; Lim, 1988). Thus, the committee proposed for the college to become a public college for all races focusing on educating commercial and industrial technicians in August 1966 (Gwee et al., 1969). In this regard, the Kongsi eventually decided to accept this proposal and hand over the college to the government in the end. The college attained its public status in 1968 and was named as Ngee Ann Technical College. The school is known as Ngee Ann Polytechnic nowadays. The case of Ngee Ann College suggests that establishing and operating a university in Singapore was a complicated issue not dominated by the state only but also orchestrated by other stakeholders reflecting the changing socio-political situation of the country.

4.2.3. The built environment of universities in colonial Singapore

Colonial universities were highly symbolic institutions established by various groups for promoting their ideologies, as investigated above. Their architecture and campus space also needed to be symbolic by reflecting such ideologies. The campuses of Raffles College and Nanyang University were different in this regard: the buildings were designed in the colonial or Chinese style to reflect their identities. Such character meant that they needed enough space to create a symbolic space, which led them to locate the school in a secluded place outside the central area, and the university, as well as the colonial government, did not carefully consider the relation to surrounding areas other than accessibility to campus. Raffles College was on the edge of the municipal area in Singapore until the 1950s. Jurong area, where Nanyang University was located, was not included in the 1952 Preliminary Island Plan published by the colonial government (Wong and Yap, 2004). It was only incorporated in the government master plan in 1958, but still planned as an agricultural area until 1960 (ibid.). In this regard,

urban planning and neighbourhood development were not a matter of consideration for the higher education institutions.

On the other hand, there is also the question of how the booming construction industry is related to the growth of the university. Haila (2000, 2016) conceptualised the Singaporean state as a property state; the construction industry was already booming in Singapore in the 1960s. For example, from 1961 to 1965, the industry grew 26.7 per cent annually, which was the highest among other industries at that time (Lim and Ow, 1971). It contributed 4.3 per cent of Singapore's GDP in 1965. As investigated above, such growth resulted in reform of degree programmes at the University of Singapore and Singapore Polytechnic. By transferring architecture and engineering programmes to the University of Singapore, the government aimed to supply more qualified technicians to support this growth. However, the question remains whether this growth is also related to the transformation of campus space. This section will review the development process of campuses in Singapore in depth from their beginnings by looking at how they determined their locations and secured funds to build their campuses. Then, this section will look further at the direct relationship between the university and the urbanisation process of Singapore.

Raffles College (later the University of Singapore)

Raffles College was formally opened in July 1929 in Bukit Timah by the colonial government. In the beginning, the government decided to offer 16.6 ha of land at Mount Rosie for the school in 1919 and purchased plots (*Straits Times*, 1921b). However, Laurence Nunns Guillemard, the governor who was appointed later, was not supportive enough to actively pursue the idea to open a university in Singapore (Wilson, 1972). He thought that the building on the Mount Rosie site was 'much too valuable a structure to be used for such a purpose' (ibid.: 102). He then decided to allocate the building and the site for the official residence of the new General Officer Commanding the Troops (ibid.). Based on a newspaper article from the *Straits Times*, the government even did not consult the committee of Raffles College to make such decision

Table 4-6 Major donors for the establishment of Raffles College (as of January 1928)

Donor	Classification	Donation (Straits Dollar)
Government of the Straits Settlements (for buildings)	Colonial government	1,000,000
Government of the Straits Settlements (perpetual annuity)		50,000
Government of Johor (perpetual annuity)		12,000
Government of Kelantan (perpetual annuity)		1,000
Government of the Federated Malay States (in ten annual instalments)		500,000
Government of Kedah (in ten annual instalments)		50,000
Sir Manasseh Meyer (for building the Science Block)	Jewish businessman	150,000
Oei Tiong Ham (deceased) (for building the Assembly Hall)	Indonesian-Chinese sugar magnate	150,000
Tan Soo Guan (for scholarships)	Hokkien businessman	120,000
Eu Tong Sen OBE	Cantonese tin and rubber merchant	100,000
Alfred Holt and Co. Ltd. and W. Mansfield and Co., Ltd.	British trading & shipping agents	80,000
H. J. Colonel Sir Ibrahim D.K., S.P.M.J., G.C.M.G, K.B.E., Sultan of Johore	Sultan	50,000
Boustead and Co., Ltd.	British trading & finance company	50,000
The Estate of Loke Yew	Chinese businessman	50,000
Straits Trading Co., Ltd.	British tin smelting company	50,000
Subscriptions collected in Johore District per G. Lyon-Mackenzie	Treasurer of Johore	50,000
Penang Mutual Improvement Association	Chinese association	39,186
Stephen, Paul and Co.	British trading & shipping agents	25,000
United Engineers Ltd.	British engineering company	25,000
M. Kader Sultan, J.P.	Sultan	20,000

Source: Author compiled based on the *Straits Times* (1928); classification data is based on Singapore National Library Board and Singapore National Heritage Board's various resources.

(*Straits Times*, 1921a). This incident shows how the colonial government then thought that having a university in Singapore was a less important matter for the colony. The location of the university campus was also a minor issue which could be altered on impulse. Considering

the fact that the house on the site was only used for the officers for around 15 years, such argument is more persuasive (*Straits Times*, 1937).

Raffle College was eventually constructed on a site that used to be part of the Singapore Botanic Gardens in Bukit Timah. The colonial government donated the 7.7 ha of land (*Malaya Tribune*, 1928). The site was proposed by the General Committee of the college and accepted by the government. The cost of construction (S\$1.5 million) was provided through the governments of Singapore and Malaya and various entities within Singapore, including Chinese, Japanese and European (see Table 4-6) (*Straits Times*, 1928). The campus was designed by British architects Cyril A. Farey and Graham R. Dawbarn and chosen by an empire-wide architectural competition held in 1922 (Guay and Tan, 2010). The government later justified its decision not to locate the college at Mount Rosie site by arguing that W. H. Firmstone, the Director of Education, rejected the site because he thought it was too hilly and secluded and thus it was not symbolic enough to commemorate the centennial of the birth of the colonial Singapore (*Straits Times*, 1921b). Richard Olaf Winstedt, acting principal of the college, justified the decision to choose the site by comparing the accessibility, cost, physical, sociological and architectural conditions of the two different sites (*ibid.*). Suitability to place a quadrangle campus, playing fields and residences, like a traditional form of a university campus, was one of the major considerations to decide its location.

One of the interesting aspects of the campus is that the site was a part of the botanic garden. The Singapore Botanic Gardens where Raffles College was located was established in 1859 by a colonial society then became a centre for plant research in Southeast Asia by the colonial government since 1875, especially in relation to rubber plantations (Singapore Ministry of Information, Communications and the Arts, 2014). For providing a site for Raffles College, most of the Economic Gardens, a site for economic and experimental crops, was removed (*ibid.*). The decision to close down the Economic Gardens was apparently not rational. In the early 20th century, Singapore was considered as the ‘rubber capital of the world’ under the British control (Brockway, 1979: 459). Rubber was one of the two engines of Singapore’s

economic growth, along with petroleum at the time (Huff, 1994). The Economic Gardens played a certain role at the time: for example, in 1917, seven million rubber seeds from the garden were supplied or sold (Singapore Ministry of Information, Communications and the Arts, 2014). Considering that Singapore was more like a trade centre as a small colony and the manufacturing industry was growing at the time, the Economic Gardens itself might have played an insignificant role in economic growth of the country. Nevertheless, the closing down of Economic Gardens shows the political importance of the university in Singapore at the time.

Singapore Polytechnic

In the case of Singapore Polytechnic, the British advisers and the government played a significant role to choose its site and build its campus. The polytechnic's first campus was constructed and officially opened in 1959 on 4.1 ha of land along Prince Edward Road. The construction cost was provided by the government, which was S\$5.5 million at that time (*Straits Times*, 1959). The area where Singapore Polytechnic was located was urban but still on the edge of town. The idea to locate the polytechnic there was proposed by Arnold William Gibson, who was then Principal of the Dudley and Staffordshire Technical College in the UK (Yip, 1965). He wrote a report for the government in relation to the establishment of a polytechnic in Singapore in succession to Ernest Henry George Dobby (UNDP and UNESCO, 1987; Yip, 1965). Gibson also suggested what departments should be established and where the school needed to be located. Based on his report, the polytechnic should be located in a central area and the report proposed the Prince Edward Road site as the most suitable location (Chua, 1989; Tan, 1994). The main reason for choosing the Prince Edward Road site was its accessibility to factories and commercial firms nearby for part-time students working there (Tan, 1994; Yip, 1965). The Gibson Report also suggested another 12.1 ha site at Kallang Airfield for homes, student grounds and student hostels (*Straits Times*, 1954). However, this proposal was not realised in the end because the government considered that they were less important to most polytechnic students who were supposed to be part-time students (*Straits*

Times, 1956). Instead, some nearby private hostel rooms and HDB flats were used for student housing (*Straits Times*, 1970, 1984).

Since the opening of Singapore Polytechnic, the area has become the financial centre of Singapore, where several government institutions and private firms are located. Some might claim that Singapore Polytechnic was an anchor institution for the development of the area because the school was one of the first buildings to appear in the area, which was reclaimed in the 1930s and left empty for several decades. However, such development was not related with the intention to put Singapore Polytechnic on a nearby site. As mentioned above, accessibility for students was more important at that time than its physical impact on its neighbourhood. Even though the government planned and developed the neighbouring area as ‘the Wall Street of Singapore’ (Chua, 1989; *Straits Times*, 1952), the land right next to the Polytechnic still remains empty or underdeveloped as of 2017. In this regard, Singapore Polytechnic was not there for revitalising the area, but because there was an empty plot with a good accessibility to the city centre, which was able to be developed easily by the government.

Figure 4-7 Aerial view of Singapore Polytechnic in the 1950s



Source: Singapore Polytechnic (2005: 151).

Nanyang University

The case of Nanyang University was different from the government institutions because its background was different. The university was located in Jurong area, which is the western part of Singapore and was home to farms, rubber estates and villages in the early 20th century (Singapore National Heritage Board, 2015a). The Jurong area was known as a ‘lost region’ with swamps and hill areas when the Jurong Town Corporation started to develop the area in 1968 (Jurong Town Corporation, 1999: 16). As mentioned above, the establishment of the university was not supported by the government, unlike the University of Singapore and Singapore Polytechnic. Thus, the role of the Chinese community was crucial to open its campus. Hokkien Huay Kuan⁹, led by an industrialist Tan Lark Sye played a significant role in making it happen. The organisation and Tan himself funded the university to purchase the 211.7-hectare land in Jurong and to construct its campus.

Figure 4-8 Nanyang University library and administration building



Source: Postcard in c.1950s, retrieved from Singapore National Heritage Board.

⁹ As like Kongsì, Huay Kuan (會館) also means a Chinese clan association, especially indicating migrants from Fujian Province.

The area was not unfamiliar to Tan and the Chinese communities in Singapore because Tan owned rubber estates in Jurong, and workers in the area were predominantly Chinese (Singapore National Heritage Board, 2015a). There were also several Chinese villages and schools in this regard. The money for the new campus, which was several millions of Singapore Dollars at that time, came from selling urban land the organisation used to hold as well as from Tan's personal donation (Ong, 2015; Yen, 2003). Along with it, the strong support of Chinese communities enabled Nanyang University to open its campus officially in March 1958. The main building of Nanyang University was designed by a British-educated local architect Ng Keng Siang (YS Tan, 2015). As shown in Figure 4-8, the design reflects Chinese heritage by modelling it off of the Forbidden City in Beijing; Nanyang was the first Chinese university established outside of China (van der Kroef, 1964).

Figure 4-9 The Cover of the *Strait Times* on 28 June 1964 in relation to the raid on Nanyang University



Source: *Straits Times* (1964a: 1) © Singapore Press Holdings Limited. Reprinted with permission.

The distant location of the university and the purpose of the university to promote Chinese culture and identity became a troublesome to both colonial and independent governments. The campus became a centre of communist activism as communism was emerging in China (Pye and Singer, 1965; van der Kroef, 1964). Riot squads from Singapore and Malaysia frequently raided the university in the 1960s (*Straits Times*, 1963, 1964a, 1964b, 1965; van der Kroef, 1964). At its peak, 51 students were arrested in one crackdown involving more than 1,000 police officers in June 1964 as reported in the newspaper as shown in Figure 4-9 (*Straits Times*, 1964a). In this regard, the campus can be understood as space for a struggle between political ideologies. Such an experience influenced the design of the new University of Singapore campus in the 1970s in a way to prevent student unrest. I will elaborate on the design process of the new campus further in the next chapter.

4.3. Comparative analysis of colonial universities in Korea and Singapore

4.3.1. The colonial university as a socio-political institution

First of all, this chapter showed that legitimacy was the most significant concern in relation to the establishment of colonial universities. The colonial powers established higher educational institutions as their reaction to external pressures even though they were negative about providing higher education to the colonised before the 1920s. Demands mostly emerged from local elites, particularly after the First World War. These demands could not be continued to be ignored because colonial governments inevitably had a weak legitimacy. Then, from the 1920s, colonial institutions began to educate the colonised for nurturing pro-colonial local elites to support the colonial power. The competition for Koreans to enter the imperial university was intense because it guaranteed an opportunity to become part of the colonial elite. In Singapore, the government also gave an opportunity to Raffles College graduates to work in government at the end of the colonial rule. Local elites were highly supportive of these universities and donated their capital. Moreover, colonial universities worked as a centre of colonial knowledge to justify their rule in colonies. Such a purpose is closely related to the

function of the tertiary circuit of capital: the ideological control and repression of society as argued in Chapter Two.

The colonial government was not the only player in the higher education sector in Korea and Singapore. There were others from social groups. American Christian missionaries established Chosen Christian College to promote Christianity as well as the US ideology. Chinese ethnic clans opened Nanyang University and Ngee Ann College for promoting Chinese culture and identity. Local Korean elites also established Bosung College for modernising the country and enlightening Koreans (Kim, 2000). While these institutions could not be established without the colonial government's consent, these institutions often collaborated with the colonial powers and vice versa. However, the clash between the colonial powers and other forces was inevitable in the end. American missionaries were forced to leave Korea due to the deteriorating relationship between the US and Japan as the Second World War approached. The Singaporean government continued to attempt to close down Nanyang University because of its communist influence, which eventually led to its merger with the University of Singapore in 1980. The USAMGIK facilitated a merger of Japanese government schools for the establishment of Seoul National University during its three-year rule to eliminate the communist influence at these schools. The colonial university was a field of struggle between different powers to establish their future influence.

Such socio-political aspects of the university imply that its economic function was less important than its political function during colonial times. Their enrolments at the time cannot be comparable to those of the current time. There were around 4,000 students registered in the higher educational institutions in Korea. These numbers were much smaller in Singapore at the same time: Raffles College had only 162 students in the 1937–38 academic year (McLean, 1939). Only right before the Second World War, in early 1941, the imperial university opened its science and engineering department for nurturing skilled engineers for supporting the rapid industrialisation of the country (Kim, 2001). This movement of the university was also related to mobilising technologies and engineers for wartime as imperial Japan's war strategy in the

middle of the Second Sino-Japanese War (Jung, 2015). Thus, the economic function of universities in Korea under the colonial rule was only a half-truth because they were mobilised by the coloniser for resource exploitation and ongoing wars (Han, 1989). The economic function of the university became clear as Korea and Singapore became independent countries. As shown in the case of Singapore, after independence, the government actively reformed the higher education sector to support its rapid economic growth by providing skilled labour. In this regard, the function of the colonial university can be differentiated from others. In this regard, the function of the colonial university can be differentiated based on its focus on the political function.

Finally, American Christian missions need to be mentioned before moving to the next subsection. In Korea, they played a more significant role in colonial Korea and thereafter. Christian missionaries were able to develop universities in Korea by cooperating with the colonial government. Then, after liberation, missionaries and their graduates cooperated with the USAMGIK to lead the growth of the higher education sector as well as to formulate a basis to promote a pro-US ideology. At the time, there was a social atmosphere against government schools because they were funded by the colonial government and worked like a government authority (Kang, 2003). Such an atmosphere helped private universities to grow further. In Singapore, Christian missions also played an indirect role in the establishment of Raffles College. The rejection of the American Christian mission's proposal forced the colonial government to establish the university as an alternative measure, while other pre-university-level schools established by American missionaries, such as the Anglo-Chinese Boys' School from 1886 and the Methodist Girls' School from 1887, were successfully operating in Singapore (Gopinathan, 1991). The different position of the Christian missions in Korea and Singapore shows the religion was also a part of the race for hegemony. Religion can be considered as a part of 'cultural imperialism' as argued by Porter (1997).

4.3.2. The space of the colonial university and thereafter

This chapter showed that the university in the colonial times was where different powers and interests interacted. In this regard, the university space cannot be understood without considering such conditions. University campuses reflected the ideology of their founders. Raffles College campus was designed by British architects to commemorate Sir Stamford Raffles, the founder of Singapore, by reflecting imperial power. Nanyang University, on the other hand, reflected Chinese ethnic identity. Chosen Christian College was designed by architects from the US to foster Christian ideology. To borrow terms from Lefebvre's space trilogy, the campus space was a 'representation of space' conceptualised by the powers reflecting their knowledge and ideology (Lefebvre, 1991: 39, 42). However, the university space was also a 'site of resistance and active struggle' (Yeoh, 1996: 15). This was especially the case of Nanyang University: the campus was a 'representational space' where 'beliefs, attitudes and social mores, and a network of institutional support' were being reinforced (Lefebvre, 1991: 39; Yeoh, 1996: 14). Keijō Imperial University and Raffles College played an opposite role. These universities were spaces where colonial ideology was being reproduced and reinforced. After the independence of Korea and Singapore, the university space faced interventions by the state to produce new representational spaces.

Colonial universities were located on peripheral locations of the city because they required large sites to reflect their ideologies. A quadrangle campus was an important element of Raffles College. Chosen Christian College was also similar. Their land conditions were considered carefully when they looked for their sites. Accessibility to the city centre was one of the factors they considered when looking for the site, but other urban planning aspects were not a major concern. The concept of urban planning existed in both Seoul and Singapore, but the boundary of urban space could not be expanded to where these universities were located. This might be related to the idea that colonial cities were mostly planned and mobilised for economic exploitation (McGee, 1967). In this regard, the universities were not an important factor because they did not play a direct role in economic exploitation. Nevertheless, one

exception was Keijō Imperial University and other government professional schools. They were expanded and relocated further northeast to align with the urbanisation strategy of the colonial government. This approach can be understood as a different character of Japanese colonialism: Seoul was not a distant colony from Japan. It was like an extension of Japan's territory. Thus, its urbanisation strategy was more inclusive than other distant colonies.

Regarding the circuits of capital, colonial universities were where the surplus value was invested globally. To build the campus of Raffles College, there were donations from trading companies from Europe and East Asia as well as magnates based in Southeast Asia. These donations were mediated by the colonial government, which is similar to the process of the investment in the tertiary circuit of capital as conceptualised by Harvey (1978) in Section 2.1. The most notable point in this process is that the source of surplus value was more global, particularly related to the imperial powers. Christian universities in Seoul were also similar. John Thomas Underwood, who was the major donor for the construction of Chosen Christian College buildings, was the founder of the Underwood Typewriter Company. Louis Henry Severance, who was the major donor of Severance Union Medical College, was the first treasurer of Standard Oil, which used to be the largest oil refinery in the world founded by John D. Rockefeller. These investments from the colonial powers can only be understood in relation to their efforts to maintain the presence of imperialism in colonies.

Lastly, the legacy of colonial universities needs to be pointed out. As argued above, most colonial universities were located in peripheral areas, but their presence affected the urban fabric surrounding them in later days. The area where Chosen Christian College was located is now where the most universities are concentrated in Seoul, while where Keijō Imperial University was located has become one of the cultural hubs in Seoul. In Singapore, the area near Nanyang University is being promoted as an innovation district of Singapore. On the other hand, in the case of Raffles College, the area was already established as a suburban area when the university campus was made, then the university was moved to a new location in the 1970s. Thus, the area remains a residential area. How the urban development process in

relation to the university proceeded in Korea and Singapore will be investigated further in the next chapter.

Summary

This chapter investigated the birth of modern higher education in Korea and Singapore under colonial rule. The growth of the higher education sector was led by both colonial governments and colonial society. Even though the colonial government was the dominant force, Christian missionaries and colonial society also played an important part. Each body had different purposes. The Japanese colonial government pursued higher education in the Korean peninsula to facilitate its colonial rule. The colonial society of Korea attempted to establish a university to achieve independence through skill cultivation. Missionaries coexisted with the colonial government and pursued their Christian mission. In Singapore, Chinese ethnic clans took a major role by donating their capital to the colonial universities and establishing their own universities resulting from their growing presence in the region. These ‘other’ bodies interacted with each other to create the terrain of the higher education sector. The terrain formed during the colonial era is important for understanding the higher education institutions that have developed to this day. In particular, as also mentioned by Altbach (2004), understanding colonial legacies is particularly helpful to examine the power relations of the East Asian state after their independence. Such an argument is more persuasive considering the land reform process and the steep increase of the establishment of private universities in South Korea.

The campus development trends of colonial universities in Seoul and Singapore are also important to understand the urbanisation processes of both cities. Even though urban development was not their main interest, they influenced and shaped their neighbourhoods by expanding their campuses over time. In Korea, higher educational institutions were mostly located in Seoul because of their dependency on socio-political conditions. Seoul has been

recognised as the centre of Korea in terms of politics, economy and society for several hundred years. There were also practical reasons that schools need to recruit staff and students easily when considering the case of Chosen Christian College. In the case of the government schools, by having them close to the government, it can control the schools easier. In this respect, universities should be considered to be subordinate to the city under the colonial rule. However, once a school settled down, it became an important element of the area and shaped the surrounding environment. Even though the form of university campuses in the colonial time in Seoul was diverse from urban to suburban as shown in Table 4-7, they tended to be located eventually outside of central area because they had difficulty securing sizeable land for their campuses.

Figure 4-10 and Table 4-8 show the locations of the higher education institutions in Singapore in the 1960s. It is shown that Nanyang University and Ng Ann College were located outside of urban areas. Along with Raffles College, it can be identified that their concept was more like an 'ivory tower' with a suburban campus, secluded from the crowded city while the medical school needed to be located next to the General Hospital. Singapore Polytechnic was an exception as an institution to attract part-time workers as mentioned above. Overall, these campuses were spaces representing their political and symbolic values. Now the buildings of Raffles College, King Edward VII College of Medicine, Nanyang University are national monuments of Singapore (Singapore National Heritage Board, 2015b). However, the direct relation between the universities and the urbanisation process of Singapore was not evident during the colonial era and the early period of independence. This might be related to their locations, which were mostly peripheral. The role of universities in the urbanisation process in Singapore was restricted to supplying an educated and skilled workforce for the rapidly developing industry.

To conclude, the power relations regarding colonial universities are compelling evidence against the problematic attempt to understand the colonial space as divided into two groups: the coloniser and the colonised. In this regard, the next chapter will focus on how these diverse

universities were reformed under the East Asian developmental state. How the university has emerged in cities in East Asia as an engine for economic and social growth as well as a tool for nation-building will be investigated, focusing on its urbanisation aspect.

Table 4-7 Higher educational institutions in Seoul under colonial rule

Name of institution	Keijō Imperial University	Chosen Christian College	Severance Union Medical College	Bosung College	Ewha College for Women
Inaugural opening	1924	1915	1886	1905	1910
Founding body	Government	Missionary	Missionary	Korean community	Missionary
Campus size (ha)	97 (as of 1941)	80.9	1.3	20.6 ¹⁾	55.9 ²⁾
Campus setting	Urban/ Suburban	Suburban	Urban	Suburban	Suburban

Source: Author compiled.

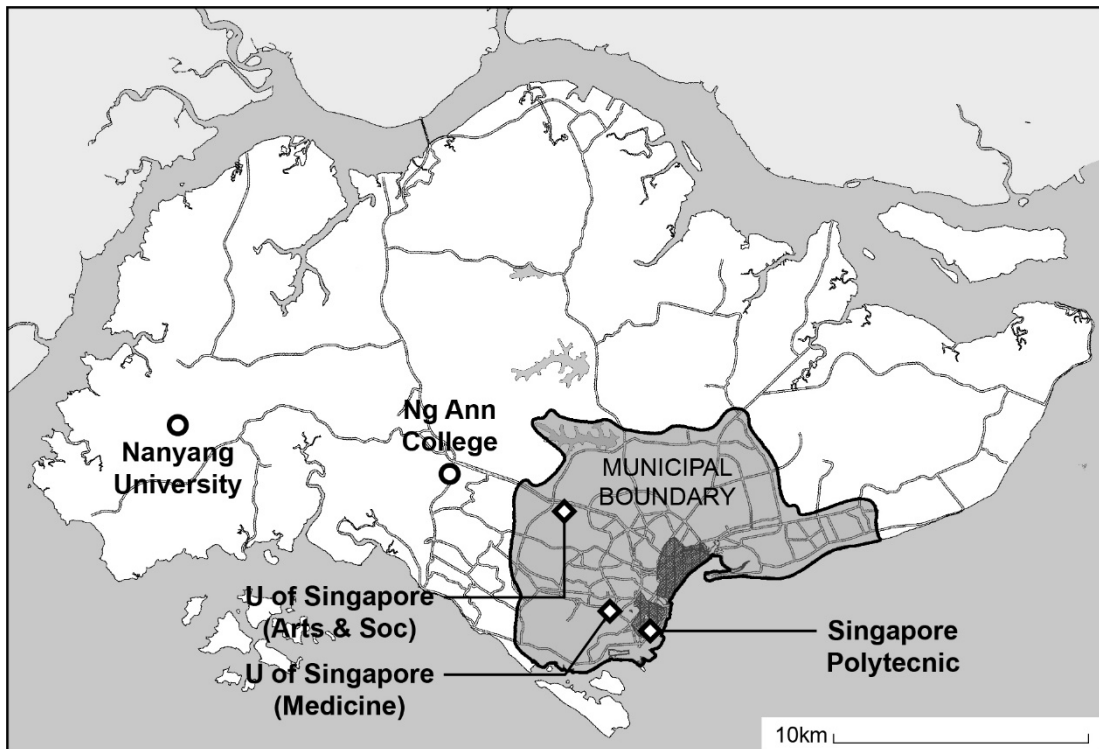
Note: 1) Major expansion in 1934; 2) Major expansion in 1935.

Table 4-8 Higher educational institutions in Singapore in the 1960s

Name of institution	University of Singapore		Nanyang University	Singapore Polytechnic	Ngee Ann College
	King Edward VII College of Medicine	Raffles College			
Inaugural opening	1905	1929	1958	1959	1963
Founding body	Government	Government	Chinese community	Government	Chinese community
Campus size (ha)	N/A	7.7	211.7	4.1	16.2
Campus setting	Urban	Suburban	Rural	Urban	Suburban

Source: Author compiled.

Figure 4-10 Map of university campuses in Singapore in the 1960s



Source: Author made.

Chapter 5: The developmental state and universities in East Asian cities

5.1. The Korean developmental state and the development of the higher education sector

4.1. The birth of the modern university in colonial Korea

5.1.1. Forming the national higher education policies under the Korean developmental state

5.1.2. The university in the spatial restructuring process in Korea

5.2. The Singapore developmental state and the birth of the National University of Singapore

5.2.1. Nationalising universities for nation-building

5.2.2. Building new campuses in changing socio-economic and political conditions

5.3. Comparative analysis of the relationship between the developmental state and the university

5.3.1. The developmental state's attempts to mobilise the university for economic development

5.3.2. University campus for uneven and even regional and national development

This chapter focuses on the period from the early 1960s to the mid-1990s to investigate the development of the higher education sector under the developmental state and its relation to the urbanisation process in South Korea (hereafter Korea) and Singapore. Based on the studies of the East Asian developmental state, one may assume that the higher education sector might have been effectively mobilised by the state to support its industrialisation and economic development like other sectors of the society. However, this did not happen. In the case of Korea, it is problematic to conceptualise the growth of the higher education sector as a top-down process led by the state. In this regard, in the earlier part of this section, we will investigate how the state tried to control the higher education sector to align with its industrialisation drive and how universities responded to it. Then, the latter part of this section will examine how the spatial role of universities was conceptualised and practised by the state. The response of private universities to the spatial restructuring policies of the state shows the complex relationships between the state, universities, and other actors and the clear connection between the built environment and the university in Korea.

In the Singapore section, how and why universities in Singapore have been developed from the beginning of independent Singapore in 1965 and their relation to the urbanisation process will be investigated. In Singapore, there have been relatively fewer universities. Only two universities existed until 2000. Both were owned and operated by the state. They were understood as important institutions in the nation-building process. The state tried to maximise the roles of universities by actively restructuring them. For example, the state transferred the architecture and engineering departments from polytechnics to the University of Singapore in the 1960s and also decided to merge two existing universities, the University of Singapore and Nanyang University, to form a single national university in 1980. Then, the new university, Nanyang Technological University, was founded in 1991. This section conceptualises the development of two universities in Singapore as a nation-building process. How the two universities were involved in the urbanisation process in Singapore will be also investigated in this section.

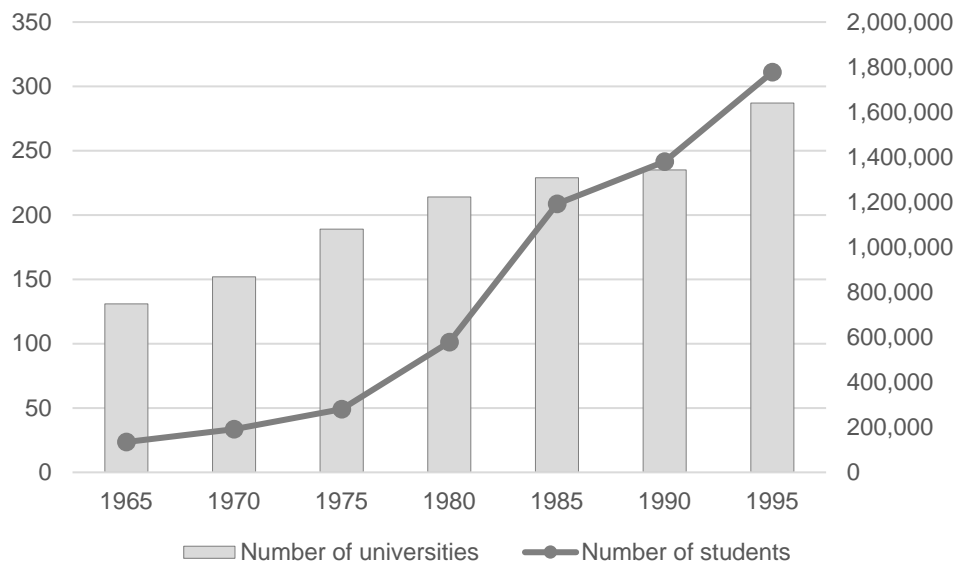
5.1. The Korean developmental state and the development of the higher education sector

From the early 1960s to the mid-1990s, the development of the higher education sector in Korea can be divided into four stages (Kim et al., 2000). The first stage is defined as the laissez-faire period from 1945–1960, which was covered in the previous chapter. During this period, the aspirations of Korean society for higher education led to the rapid expansion of the sector. The number of schools and students increased by 4.5 times and 12.9 times, respectively, from 1945 to 1960 (ibid.). The second stage is named the capacity control period from 1961 to 1978. Under the military regime, the university saw the government intervention as realising economic development and political stability. The third stage, from 1979 to 1993, was another expansion period. Government control over universities was relaxed, reducing social and political pressures. The last stage is defined as the liberalisation period from 1994 to the present. However, despite such periodisation, universities in Korea are said to be controlled by the state in general (Park et al., 2005). This section focuses on the second and third stages, when the Korean developmental state's presence was strongly pronounced.

5.1.1. Forming the national higher education policies under the Korean developmental state

During the period from 1961 to 1993, the state attempted to mobilise the higher education sector to support the nation-building process in Korea, but such a strategy was not always successful due to the demand of the society for education (Seth, 2002). The state-led industrialisation policy of Korea was considered as successful since the country achieved rapid economic growth during this time. As discussed earlier in Chapter Two, the main idea of the developmental state is state control over society as a whole. Nevertheless, the higher education sector, which was largely led by private universities, interacted with the state to achieve their material goals even under the military regimes. Providing higher education is costly for the state and its effect might be questioned in a society where low-skilled labour is more important, but despite the state's attempt to suppress the growth of the higher education

Figure 5-1 Number of universities and university students in South Korea (1965-1995)



Source: Korean Higher Education Research Institute (2016).

sector, it exhibited rapid growth, as shown in Figure 5-1. The number of universities more than doubled, and the number of students increased 13 times over 30 years. The rest of this subsection explains how the state tried to control universities and their reactions to the state focusing on private universities.

The capacity control period: 1961–1978

From 1961 to 1978, the government controlled the expansion of universities while focusing on the economic development of the country. The higher education policies were formulated in coordination with the ‘Five-year Economic Development Plans’ (Seth, 2002). The government aimed to invest in primary and secondary education instead of higher education so that more citizens could have the chance to finish compulsory education. Vocational training was also promoted to supply skilled labour for rapidly growing industries. The government also selected key academic departments, required for supporting the economic development plans, although such plans were not implemented perfectly. Table 5-1 shows the number of students enrolled in different majors in universities from 1962 to 1978. Based on the table, the number of science and engineering students increased 4.3 times, from 7,685 in 1962 to 33,035 in 1978, but students studying humanities and social science also increased 3.0

Table 5-1 Changes in majors of first-year university students in South Korea, 1962–1978

Year	Humanities and social sciences	Education	Science and engineering	Agriculture
1962	7,010 (43%)	580 (4%)	7,685 (47%)	1,020 (6%)
1967	10,430 (39%)	2,070 (8%)	13,110 (50%)	825 (3%)
1972	13,020 (32%)	5,010 (12%)	19,300 (48%)	3,100 (8%)
1977	17,975 (29%)	12,285 (20%)	27,350 (44%)	4,610 (7%)
1978	20,915 (30%)	11,835 (17%)	33,035 (47%)	4,610 (7%)

Source: Yi (1992), cited in Seth (2002).

times, which is still relatively high. Despite the control of the government, the number of university students continued to increase because the public demand for higher education could not be simply ignored (ibid.).

The private sector led the growth of the higher education sector. The state had less power to control the growth of private universities, which were financially less dependent on the state. For example, in the 1950s, private universities collected money from their students to raise extra funds in addition to tuition fees for their new buildings (JI Kim, 2012). Private universities often refused the government's orders such as the one to refund a share of the tuition fees increased without the approval of the government (ibid.). At the beginning of military rule, private universities can be regarded as having enjoyed their privileged status. Investing in tertiary education was considered unnecessary for economic planners who wanted to promote the rapid industrialisation of the country (Seth, 2002). The government planned to reduce university enrolment from 125,000 in 1961 to 64,164 in the next three years and ordered the closure of twelve higher education institutions (ibid.). However, such an order was never realised because the high public demand for higher education could not be simply ignored (Chae and Hong, 2009; Seth, 2002). Private universities accepted more students than what was

permitted by the government, and the entrance quota kept increasing under military rule (JI Kim, 2012).

The Private School Act of 1963 was thus enacted as a compromise between the developmental state and private universities. The law mainly aimed to control the establishment of private universities and their operational structures (Chae and Hong, 2009). Under this law, the Ministry of Education took back power to regulate the higher education sector as restricting enrolment quotas. The ministry was also able to regulate the operation of private universities: based on this law, private universities were to be run by a non-profit incorporated foundation. Nevertheless, profitable activities were allowed for supporting university finance. The law also allowed the chairman of each foundation to exercise great power over the foundation and the university and to appoint his or her family members as members of the foundation. By doing so, university foundations began to have structures similar to those of private companies, which led to numerous corrupted university foundations (JY Kim, 2012). Overall, the Private School Act of 1963 should be viewed as a form of consensus that guarantees the respective rights of the state and the founders of private universities.

The expansion period: 1979–1993

From 1979 to 1993, universities in Korea experienced rapid expansion. Various policies were implemented with common objectives (Kim et al., 2000): firstly, the policies aimed to relieve private universities' financial difficulties. The finance of private universities heavily relied on tuition fees, which accounted for 79.1 per cent of the total revenue of private universities in 1987 (Korean Council for University Education, 1988). Government support for private universities was only 1.1 per cent of their total revenue while other sources such as income from profitable activities made up 19.8 per cent (ibid.). It was an easier solution for the government to increase the enrolment quota of universities than to increase financial support for private universities to solve this issue. As a result, the government allowed private

universities to control their tuition fees in 1989 so that they could be more financially viable. This burden was apparently transferred to students and their families.

Secondly, the new military regime needed to fulfil the public demand by offering more opportunities for higher education. Chun Doo-Hwan, who obtained power through a coup, had his government's legitimacy challenged, particularly after the May 18th Democratic Uprising. Meanwhile, the private tutoring of high school students to prepare them for the university entrance exam was rampant at the time, due to intense competition to enter elite universities. This affected household incomes negatively, and the sense of deprivation of the poor who could not afford private tutoring became a social problem (Seth, 2002). Furthermore, the disparity between the high public demand and the small university entrance quota led to the accumulation of students retaking university entrance exams, which became a significant social problem. The military government at that time took these issues seriously, then radically increased the entrance quota (Cho, 2006). The most dramatic increase happened in 1980: the government decided to increase the 1981 university enrolment quota 1.5 times, from 205,000 to 307,000, which was the largest increase ever in the history of higher education in Korea (Seth, 2002). Overall, in the period between 1979 and 1993, the quota of 4-year universities was increased 17.5 per cent annually while the 2-year college quota was only increased 4.9 per cent a year (ibid.).

The symbolic power of the university is one of the factors that the state failed to fully control. The power dynamics have two contradictory aspects: support for economic development and threat to the state legitimacy. In terms of threat, the professors could be a group that challenges the state legitimacy, using their authority by directly participating in the opposition movement or by indirectly supporting it. Such phenomena were witnessed in 1960 when professors protested the presidential election fraud. 258 professors marched together on 25 April to demand that the president step down (Korea Democracy Foundation, 2008). This movement was crucial in causing the first Korean president, Rhee Syng-Man, to resign on 26 April 1960 (Chung, 2006; Korea Democracy Foundation, 2008). Such experiences resulted in the

subsequent military regimes repressing the university to prevent further confrontations to the state. To control the university, the military regimes attempted to militarise schools by introducing mandatory military drills in the university and to repress anti-government elements by expelling radical-minded professors and banning left-leaning books (Korea Democracy Foundation, 2009; Seth, 2002). Police continued to crack down and resided in universities to surveil students and professors until 1984 (Seth, 2002). Nevertheless, students and professors continued to protest the military regime: the university was the place where the June Democracy Movement was initiated in 1987, which led to the end of the military regime in Korea (Korea Democracy Foundation, 2010).

Such events show that the military regime failed to repress the university. Because the military regimes took power in the coup, their legitimacy was weak. In this regard, the regime mobilised professors as technocrats and ideologues. Several organisations were formed by the state to produce policies for economic development and ideological control (Kang, 2015). Some of these cooperative relationships were established with legislation and still continue today. The Central Urban Planning Committee is an example. The committee was formed in 1972 under the Urban Planning Act. The majority of the committee must be formed of non-government professionals, which are mainly university professors (Kim, 2006). They have made major decisions on large-scale urban development projects since then. Similar regional-level committees were also set up. The power of professors in the committee should not be underestimated, as stated by a professor who used to be a member of Central Urban Planning Committee in my interview. He mentioned that:

You may think a professor is nothing. However, if a professor once challenges [an idea] by saying ‘this never can be done’ at a decisive moment, the project cannot proceed. (KT2-DEV-INT-01, 2016)

Such power relations, which date back to the USAMGIK rule, as shown in Chapter Four, made it difficult for the military government to intervene in the university. This is also related to the fact that private university founders were the landed gentry, which were supposed to

collaborate with the military government but also to pursue their material interests by managing the university and accepting more students.

5.1.2. The university in the spatial restructuring process in Korea

The following subsection will investigate how the Korean developmental state attempted to mobilise universities spatially and what the consequences of this were. To do so, two major policies, the Capital Region Regulation and the Satellite Campus Policy, will be examined. As explained above, the higher education sector in Korea had expanded rapidly from the 1960s to the 1990s. This process was also highly related with the built environment and the urbanisation process in Korea since the Korean developmental state achieved rapid economic growth through industrialisation and urbanisation (Shin and Kim, 2015). The state recognised the role of the university in the urbanisation process from the 1970s and tried to utilise the universities to promote a more balanced development of the national territory. Regarding this process, this subsection conceptualises the relationship between the state and the university as a more horizontal relationship instead of a top-down process led by the state. The case of Yonsei University, which is examined in the remainder of this subsection, also indicates that there were different actors in this process.

The Capital Region Regulation

The Capital Region Regulation is a clear demonstration of how the spatial role of universities in Korea has been recognised. The Capital Region Regulation was a series of policies to reduce the concentration of population in the Seoul metropolitan region implemented since the 1970s. Various government departments formed subordinate policies to aim to control the population increase of the capital region by restricting activities in capital region and restructuring the national territorial structure (Cho, 2009). Such plans include the basic guidelines of controlling the overcrowding of the capital region by the Ministry of Construction announced in April 1970 and the Seoul population dispersal plan by the Seoul Metropolitan Government in August

1975. These plans recognised factories and schools as two major drivers of the congestion in the capital region. Thus, these policies aimed to restrict the increase of these facilities in the capital. The Seoul Metropolitan Area Readjustment Planning Act of 1982 was implemented in July 1983. From then on, the overall idea of regulating the growth of the capital region has been continued until now, facilitating the decentralisation of the population and industry of the capital region.

Despite the continued efforts of the state, the regulation was not always successful. In 1970, 28.3 per cent of the total Korean population of 32,241,000 lived in the capital region. This proportion has been gradually increased. In 2000, 46.3 per cent of the total Korean population of 47,008,000 lived in the capital region. The population of the capital region had increased 2.4 times over three decades. It is also generally understood that the industrial agglomeration of the capital region has intensified over the time (Ahn, 2008; Lee, 1998). Moreover, the capital region regulation policies also resulted in the relocation of some facilities outside of Seoul, but many of them were relocated to the capital region and adjacent regions (Kim and Lim, 2005). It is generally believed that the regulation was not successful because the policy means did not match with the policies, and the policies were not strong enough to affect individuals' and firms' behaviour (ibid.).

One of the core ideas of the Capital Region Regulation was to suppress the growth of universities in the Seoul Metropolitan Region because it was believed that the university is one of the major drivers to attract the rural population to Seoul. It is a case showing how the spatial role of the university was understood by the state. The regulation of universities in the capital region first emerged in the Capital Region Population Relocation Plan (1977– 1986) in 1978 by the First Minister without Portfolio¹⁰ (Park and Lee, 1997). The plan aimed to expand opportunities for higher education in non-capital regions in terms of both quality and quantity

¹⁰ First Minister without Portfolio indicates a Cabinet Member having no department-in-charge. This position is similar to that of Under-Secretary in the UK Parliament.

while retaining the size of the higher education sector in the capital region. Then, the Seoul Metropolitan Area Readjustment Planning Act of 1982 prohibited universities in Seoul from increasing enrolment quotas. The regulation has been amended over time, but in the capital region, the establishment of a 4-year university has been restricted and the increase of the enrolment quotas was strictly controlled by the central government. The state recognised universities as one of the major facilities that caused population to amass in the capital region along with factories (Cho, 2009). Thus, the government has tried to mobilise universities to decentralise the capital region as a spatial restructuring strategy.

However, it is arguable that the regulation by the state has been successful regarding controlling the expansion of universities. Universities in the capital region have been controlled in two ways: restricting new universities to be located in the capital region and limiting the total number of students in the capital region. Table 5-2 shows the changes in the number of universities and university entrance quotas in the capital and non-capital regions from 1975 to 2005. Because of the state regulation, the total entrance quota of universities in non-capital regions increased more than two times than one in the capital region from 1975 to 1995. The Capital Region Regulation was successful in increasing the total entrance quotas of universities in non-capital regions, which increased more than two times than those in the capital region from 1975 to 1995. The number of universities in non-capital regions also increased more rapidly than one in the capital region. Nevertheless, the population of non-capital regions remained at around 24.8 million, which means that the state failed to achieve the original purpose of the regulation to suppress the increasing population of the capital region. Moreover, as argued by Cho (2009) and Yim et al. (1993), the total entrance quota of universities in the capital region was still significantly increased from 31,119 to 102,380, while the population of the capital region increased 1.6 times over the same period.

Table 5-2 Number of universities, student quota and population in the capital and non-capital regions in South Korea from 1980 to 2005

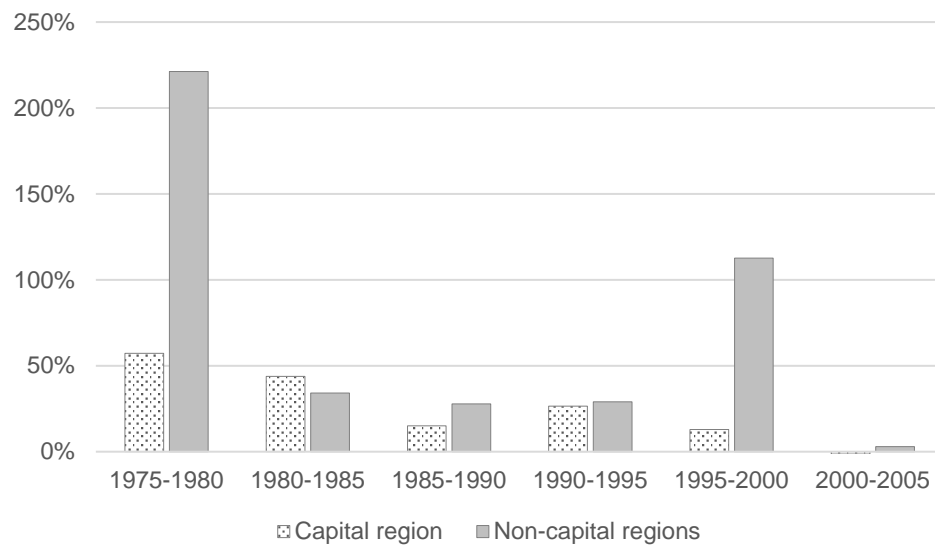
Year	Capital region			Non-capital region		
	Number of universities	Entrance quota	Population	Number of universities	Entrance quota	Population
1975*	40 (55.6%)	31,119 (59.9%)	11,111,068 (31.5%)	32 (44.4%)	20,801 (40.1%)	24,169,657 (68.5%)
1980*	42 (49.4%)	48,933 (42.3%)	13,544,004 (35.5%)	43 (50.6%)	66,822 (57.7%)	24,579,771 (64.5%)
1985	47 (47.0%)	70,363 (44.0%)	15,963,172 (39.1%)	53 (53.0%)	89,615 (56.0%)	24,842,572 (60.9%)
1990	49 (45.8%)	80,965 (41.4%)	18,342,145 (42.8%)	58 (54.2%)	114,565 (58.6%)	24,527,138 (57.2%)
1995	55 (42.0%)	102,380 (40.9%)	20,413,857 (45.3%)	76 (58.0%)	147,850 (59.1%)	24,679,134 (54.7%)
2000	66 (41.0%)	115,625 (26.9%)	21,747,341 (46.3%)	95 (59.0%)	314,410 (73.1%)	25,260,770 (53.7%)
2005	68 (39.3%)	114,025 (26.1%)	23,202,135 (48.2%)	105 (60.7%)	323,537 (73.9%)	24,935,942 (51.8%)

Source: Korea Ministry of Education (1975, 1980); Korea Educational Development Institute (2007); Statistics Korea (2016).

* Note: 1975 and 1980 entrance quotas are actual number of entrants

The regulation of universities in the capital region also resulted in further problems beyond the universities themselves. As examined above, the population of non-capital regions had remained at a similar level, but the increase of university enrolment quotas was concentrated in non-capital regions. Such spatial disparity meant that students from the capital region had to move to non-capital regions to continue their studies, which resulted in imposing unnecessary socio-economic costs, caused by inefficient or contradictory regulations. For example, students from Seoul had to spend housing and transportation costs by going to a university outside Seoul due to the restricted places in universities in Seoul. Based on a study by Yim et al. (1993), students of universities in non-capital regions from the capital region kept increasing from 1981 to 1991, and in 1991, 49.2 per cent of students of universities near the capital region were living in and commuting from the capital region. Furthermore,

Figure 5-2 Increase of university entrance quotas in South Korea by region (1975–2005)

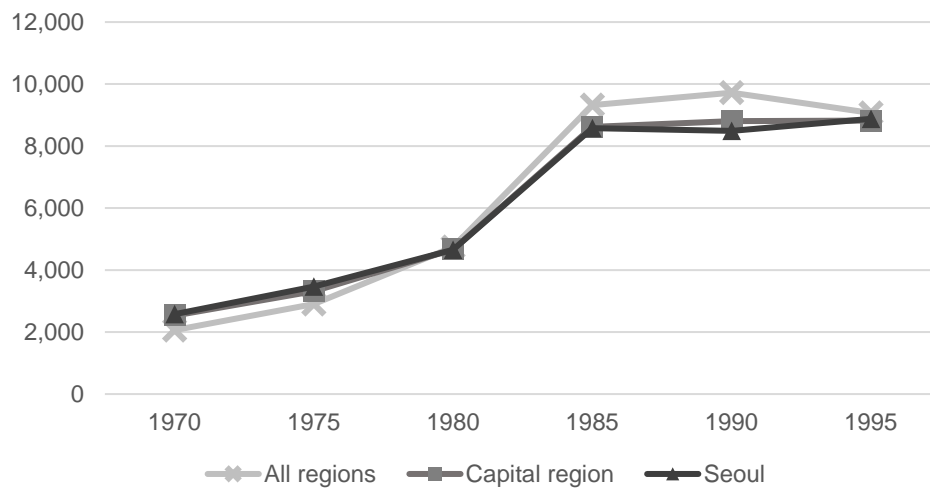


Source: Korea Ministry of Education (multiple years).

according to Cho (2009), the socio-economic costs of the Capital Region Regulation over universities could be as much as Korean Won (thereafter KRW) 178 billion per year. The proportion of the population entering the university in the capital region and non-capital regions in 2007 was 49.7 per cent and 50.3 per cent, respectively. However, the ratio of the entrance quotas in the capital and non-capital regions was 35.7 per cent and 64.3 per cent, respectively. This was particularly problematic because the higher education sector was largely funded by students and family. Such costs were an additional burden for students and their families on top of tuition fees, even though the university towns in the non-capital regions might have benefited from the policy. Such findings suggest that the attempt to restructure the national territory spatially through the Capital Region Regulation by using universities failed to produce actual results and caused several side effects.

Figure 5-2 shows the increase of university entrance quotas in the capital region and non-capital regions. Despite the regulation, the total entrance quota in the capital region kept increasing, which shows the ineffectiveness of the regulation. The growth rate of the entrance quota of universities in the capital region was even higher than the rate in the non-capital regions from 1980 to 1985, as shown in Figure 5-2. Moreover, except the periods from 1975

Figure 5-3 Average number of students of a university in South Korea (1970–1995)



Source: Korea Ministry of Education (multiple years).

and 1980 and from 1995 to 2000, the growth rates of university entrance quotas do not show much difference between universities in the capital and non-capital regions. Since the government controlled the establishment of universities in the capital region, it can be expected that most of the enrolment increase was absorbed by existing universities. In this process, the government had created various exception rules to let universities increase their enrolment. In 1985, evening course students were excluded from the Capital Region Regulation, and the government also allowed universities in the capital region to accept 16,000 high-tech engineering course students from 1992 to 1995 (Kim et al., 2015). As can be seen from Figure 5-3, the average number of students per university increased whether in the capital region or a non-capital region, which means that existing universities kept enjoying their privileged status. Such a trend is also found in Yonsei University. As an elite private university, its enrolment had been more restricted, when compared to other less privileged private universities in Seoul. Nevertheless, Yonsei University had also achieved its growth in general. When the restriction on the entrance quota of universities in Seoul was introduced, other private universities in Seoul still could have an opportunity to increase their quotas, but not Yonsei University and other more privileged universities: from 1975 to 1980, the total entrance quota of universities in Seoul increased by 33.2 per cent, but the entrance quota of Yonsei University increased only

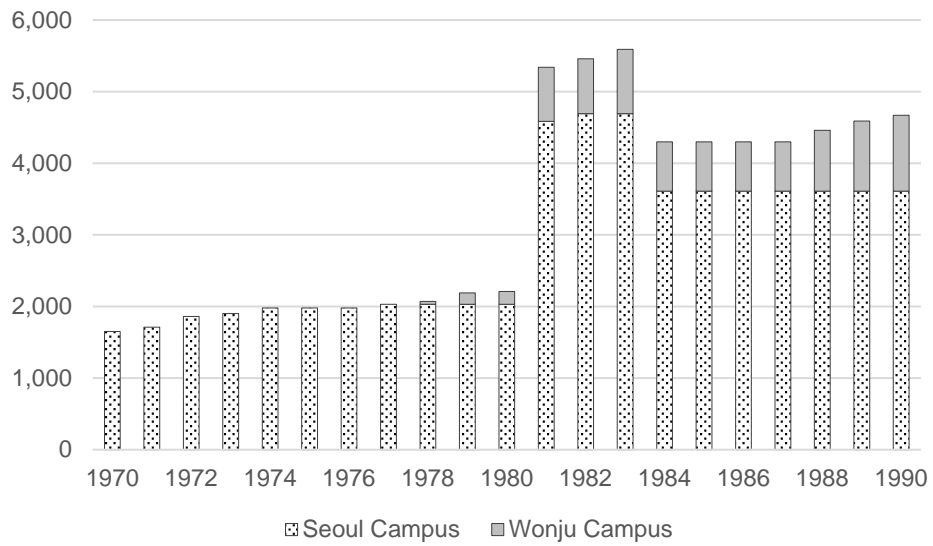
by 2.5 per cent. As can be seen in Figure 5-4, from 1970 to 1990, the entrance quota of Yonsei University Seoul Campus remained stable except for the period between 1981 and 1983, when the government attempted to introduce the graduation quota system instead of the entrance quota system for gaining public sympathy. Furthermore, despite the restriction on entrance quotas, Yonsei University was able to physically expand its Seoul campus. Figure 5-5 shows the growth of land and campus buildings of the university from 1970 to 1990. The size of land increased by 43.2 per cent to 120.6 hectares while the total floor area was increased 2.6 times. Overall, under the Capital Region Regulation, the university could still continue its expansion.

The Satellite Campus Policy

There were also a few attempts to foster the non-capital regions by giving incentives instead of restraining activities in the capital region. The satellite campuses of private universities were the major example. The incentive was materialised through the General Plan for Capital Region Population Dispersal by the First Minister without Portfolio in 1977. The plan included an idea to provide incentives to private universities in Seoul to open their branch campuses in a non-capital region or to relocate their campuses to a non-capital region (Park et al., 2004). The Satellite Campus Policy was mainly driven by Park Chung Hee's Yushin regime until 1980. 12 universities opened their branch campuses and two universities moved their campuses outside Seoul between 1977 and 1988, but most of the satellite campuses were approved by the government between 1977 and 1979 as shown in Figure 5-6. After the military coup in 1980, the Satellite Campus Policy was discontinued since the new government then had no clear position on it (Kim, 1992).

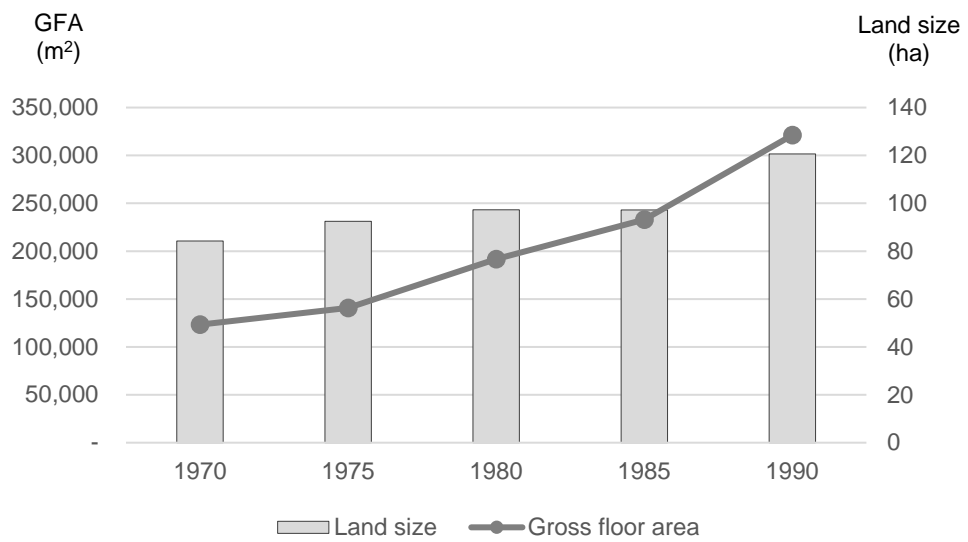
Government incentives were attractive enough for most of the major universities in Seoul to establish their own satellite campuses. These incentives included giving priority to universities to increase their departments and enrolment quotas, supporting them to expropriate private land and purchase government land, and to provide financial aid if universities in Seoul opened their satellite campuses in non-capital regions (*Donga Ilbo*, 1977). By doing so, the government

Figure 5-4 Changes in the entrance quota of Yonsei University (1970–1990)



Source: Yonsei University (multiple years).

Figure 5-5 Increase of land and gross floor area of Yonsei University Sinchon Campus



Source: Yonsei University (multiple years).

Figure 5-6 Number of satellite campuses opened by year

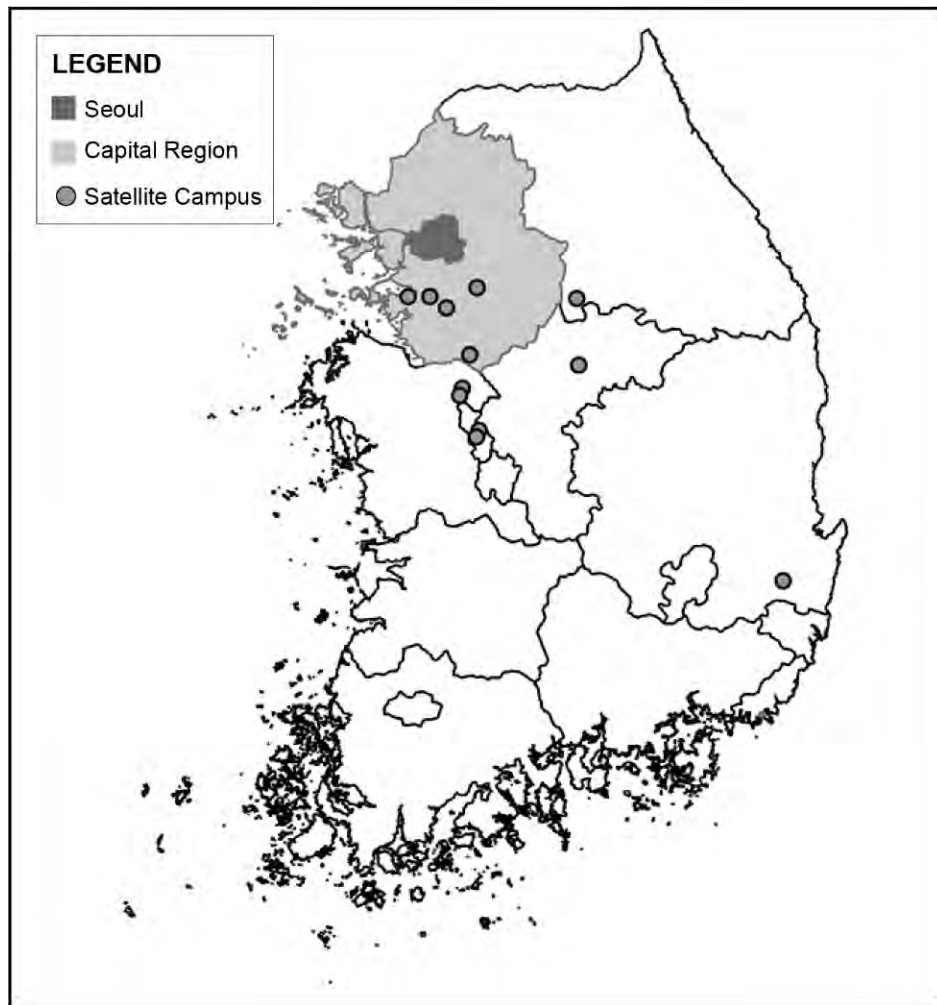


Source: Author compiled based on Pyo (2000).

aimed to alleviate not only congestion in the capital region but also the financial difficulties of private universities in Seoul (*Kyunghyang Shinmun*, 1979, *Kyunghyang Shinmun*, 1981c). Since around 80 per cent of the total revenue of private universities came from tuition fees, increasing the number of students meant that universities could increase their incomes easily. In 1981, the total number of students in satellite campuses was 38,220 (*Kyunghyang Shinmun*, 1981b). The number increased to 72,000 in 1990, accounting for 40.0 per cent of the total student enrolment of both Seoul and satellite campuses of these universities (Jang, 1992). While the entrance quota of universities in Seoul kept increasing despite the Capital Region Regulation, the Satellite Campus Policy was another favourable policy for private universities to achieve their growth.

The aim of the government to develop non-capital regions through private universities was not as successful as the government had intended. The government encourage universities to open their satellite campuses in five non-capital regions in the southern part of Korea, namely Daejeon, Gwangju, Masan, Daegu, and Jeonju (Kim, 1992; *Kyunghyang Shinmun*, 1977). However, in the end, as Figure 5-7 shows, all satellite campuses but two have been built near or in the capital region. Private universities in Seoul chose to build their new campuses in a remote part near the capital region because of the availability of affordable land, the ease of

Figure 5-7 Location of satellite campuses opened between 1977 and 1988 in Korea



Source: Author made.

attracting students from the capital region, and less competition with the national universities in non-capital regions (Jang, 1992; Kim, 1992).

The concentration of satellite campuses in the capital region needs to be understood as an outcome of the private universities in Seoul effectively utilising the government policy to maximise their material interests. When the introduction of the Capital Region Regulation began in the 1970s, the regulation was implemented inconsistently by different government departments. The government did not hesitate to permit the establishment of satellite campuses if they were located outside Seoul, and private universities actively took advantage of this opportunity (HJ Kim, 1986; Pyo, 2000). An example is the satellite campus of Hanyang University, located in Ansan, a newly built industrial town near Seoul. The university was able

to be located near Seoul by utilising the industrialisation policy of the government (Hanyang University, 2011). The university also did not need a large amount of funds to build the new campus. Of the total KRW 8.9 billion, 5 billion was financed through foreign loans in addition to 1.5 billion foreign grants (Hanyang University 2011). Despite the Capital Region Regulation, contradictory decisions were often made by the government for promoting economic development of the country.

The Satellite Campus Policy was problematic not only because of its failure to achieve its original purpose to build satellite campuses in order to develop lagging regions but also because of its side effects. As discussed above, since private universities in Seoul utilised the policy as an opportunity to increase their profits, satellite campuses tended to be built poorly, failing to satisfy the basic regulations of the government, including the minimum number of academic staff and floor space for students and (Kim, 1992; *Kyunghyang Shinmun*, 1981c). The lack of facilities led students to commute from their homes. A large number of their students were from the capital region: a study by Pyo (2000) indicates that 63.3 per cent of male students and 67.5 per cent of female students in satellite campuses were from the capital region in 1998. They often spent four hours commuting from Seoul to satellite campuses or lived in private accommodation, resulting in socio-economic costs (*Kyunghyang Shinmun*, 1981b; Yim et al., 1993). In addition, the policy was particularly problematic because a satellite campus was an opportunity for the education foundations of private universities to accumulate their wealth in a corrupted way. For example, in 1981, the prosecution found that Kyung Hee University illegally used income from its hospital to purchase land for its satellite campus and that Myongji University embezzled from the construction funds of its satellite campus using its subsidiary construction company (*Kyunghyang Shinmun*, 1981a).

Another example where a university utilised the satellite campus policy was Chung-Ang University, which opened its Ansung campus in 1979. The university initiated its plan to open its satellite campus in the early 1970s and decided to locate in Ansung in the southern part of the capital region (Chung-Ang University, 1998). The university aimed to have a 188-hectare

campus, but initially secured land plots totalling 99 hectares (ibid.). It was known that the university was able to find a large amount of land with the support of local elites (*Ansung News*, 2015; Chung-Ang University, 1998). The county governor, a police superintendent, and other local influences formed an organisation to attract a university to the town in 1977 and mediate the land purchase process of the university (ibid.). The satellite campus of the university caused many problems for the university soon after. In 1987, it was revealed that the university debt reached KRW 70 billion while the chairman of the university foundation built up a KRW 3.6 billion slush fund, amounting to the tuition fees of 6,000 students for one semester (*Chung-Ang University Newspaper*, 2008). The development of Chung-Ang University's Ansung campus is a case showing a variety of material interests that met surrounding the land: local leaders believed that the university was the driving force of regional economic development and the 'owner' of the university sought profits through the new development.

Yonsei University Wonju Campus

The case of Yonsei University shows the relationship between the university and the *chaebol*. Yonsei University also opened its satellite campus, located in Wonju, Gangwon Province. It was approved by the government in December 1977, initially to host 40 students in total for a pre-medical programme. Its first term began in March 1978, and three more departments, Humanities and Social Sciences, Natural Science, and Medicine, opened in January 1981. As of 2012, Wonju Campus is based on 168 ha of land with a total floor area of 227,357 sqm. 9,048 students and 797 academic staffs are studying and working in the campus. Yonsei University Wonju Campus is one of two exceptional cases along with Dongguk University,¹¹ where the satellite campus is located in a remote area of Korea. At the time, the joint Christian mission was operating a 220-bed Wonju Christian Union Hospital on 4.0 ha of land. Since the

¹¹ Dongguk University was founded by Buddhists and decided to open its satellite campus in Gyeongju. The city was the capital of Silla (1st century B.C. to 10th century A.D.), where Buddhist culture advanced.

Yonsei University Foundation was also managed by board members from Christian denominations, the university was able to inherit the hospital. By donating the hospital to the Yonsei University Foundation in January 1976, the university was able to secure land for its satellite campus.

Yonsei University Wonju Campus conducted its major expansion in 1984, and the expansion shows the relationship between the university and the *chaebol*. Its new campus opened on a 185.1 ha site in the southern part of Wonju. The land was donated by Kim Woo Jung, an alumnus of Yonsei University as well as the founder and the former chairman of Daewoo Group, which was one of the largest *chaebol* groups in Korea at the time. He continued to make donations to the university and eventually became a board member of the university foundation and the president of the alumni association. For example, he donated KRW 5 billion for the new building for College of Commerce and Economics in the late 1990s. However, his contributions were not sustained because of the dismantling of the Daewoo Group due to the Asian Financial Crisis in the late 1990s. His donations contributed to the expansion of the university, but his intentions and the consequences are open to question. Over two decades, from 1979 to 1998, all verifiable buildings in Seoul campus, including a university hospital in Gangnam and a 24-story office building in the CBD, were constructed by Daewoo Construction. A retired professor from Yonsei University, who was often involved in university operations, recalled the relationship between the university and Daewoo Group in an interview:

At the time [the 1990s], Yonsei University had been known as Daewoo's turf. [...] Yonsei University spent KRW 1.2 million or 1.4 million per square metre for the construction of the new building for the College of Commerce and Economics. At the time, other universities normally spent around KRW 0.4 million per square metre for their new buildings. So, I invited other contractors for tenders for new buildings in the campus to make Daewoo fail to win bids, but other contractors reacted [and said] 'why do we have to make vain efforts?' (KT2-DEV-INT-01, 2016)

The relationship between Yonsei University and a *chaebol* is not as evident as other private universities such as Sungkyunkwan University and Chung-Ang University, whose foundations

are owned by Samsung Group and Doosan respectively. However, the case of Daewoo shows that there was a close relationship between the university and the *chaebol* and that the built environment was a link between two bodies.

Yonsei University Wonju campus also had problems not only with poor infrastructure and a poor learning environment similar to other satellite campuses in the beginning but also by establishing a link between Seoul and Wonju campuses. The continued efforts of its students contributed to the improvement of the campus: in 1987, 1989, and 1992, students at Wonju Campus had major protests, claiming an equal educational environment the Seoul Campus (Kim, 1992; *Yonsei Chunchu*, 1999). The campus now meets or exceeds the education standards of the government.

Nevertheless, the integration of the Seoul and Wonju campuses was a difficult mission to be accomplished. Various reasons can be identified: the concentration of administrative power on the main campus, the poor educational environment of the satellite campus, and discrimination over the satellite campus and its students (S-I Kim, 1988; Y-G Kim, 1988). In addition, the distance from its main campus was also one of the reasons. Yonsei University Wonju Campus is less than 72 km away from Seoul and 92 km from Yonsei University Seoul Campus. Due to its poor connectivity to Seoul, the Wonju Campus was considered as remote as compared to other satellite campuses, and the members of the university felt disconnected from the main campus. A government officer who graduated from Yonsei University and participated in the third campus project of Yonsei University in the mid-2000, mentioned the perception of Wonju Campus among administrators of Yonsei University as follows during an interview:

The history I know is that Yonsei University had a lot of reflection on the decision to open its satellite campus to be located so far away. It would have been much better if the university could receive a donation of 160 to 200 hectares of land near the university observatory in Goyang-si, which was possible at the time. Since the university opened its satellite campus in Wonju, the main campus and the satellite campus could not be harmonised and [thus] performed like separate universities. (KT3-YSU-INT-01, 2015)

Such perception of Wonju Campus as a distant institution was again confirmed during an interview with a professor from Yonsei University (KT3-YSU-INT-08, 2015). This problematic relationship led the university to seek for another opportunity for expansion, which will be investigated in Chapter Seven.

5.2. The Singapore developmental state and the birth of the National University of Singapore

This section will investigate the development of Singapore's higher education sector since the independence of Singapore in 1965, when the country began its pursuit of rapid economic development based on industrialisation. As is well known, Singapore has established several government agencies, such as the Economic Development Board and the Jurong Town Corporation, to promote the economic development of the country effectively. The education system needed to be aligned with the state policy to support industrialisation. In particular, the state intervention in the higher education institutions was inevitable because it was more influential and costly than other educational institutions. The Singapore developmental state has merged separate universities together according to its changing needs. In order to enable this process, the state attempted to absorb the university as part of the state. This subsection will investigate the background of the process. The merger of University of Singapore and Nanyang University into the National University of Singapore in 1980 and the establishment of the Nanyang Technological University in 1991 will be the main cases examined.

5.2.1. Nationalising universities for nation-building

As mentioned in Chapter Four, there had been a demand in Singapore for reforming the higher education sector to support national development. The university was considered as an important institution for Singapore to contribute strongly to transforming the country by meeting social and economic needs (Gwee et al., 1969; Lee and Tan, 1996). The leaders of the

People's Action Party, including Lee Kuan Yew and Toh Chin Chye, actively led the reform process of the higher education sector. Their will for reform can be easily seen in their public speeches. For example, in the seminar 'the role of universities in economic and social development' held at the University of Singapore in February 1966, Lee Kuan Yew emphasised the importance of the university reform:

When the university is able to creatively pursue the problems of our society, define them, and then set out to attack them and provide solutions, then I say the university has been established, it has become a national university. (Lee, 1966)

This reform does not only mean to establish practice-oriented degree programmes in the university but also nurture nationalistic-minded talents. Such an idea was again confirmed by Ong Pang Boon, the Minister of Education at the time, in December 1965:

With the emergence of Singapore as an independent and sovereign state, the necessity to use education as an instrument to weld national unity and to build a nation out of its heterogeneous population has become urgent and unavoidable. (Ong, 1965)

These statements clearly indicate that universities were an object to be transformed by the government to achieve the goals of the government.

The reform process of the University of Singapore was primarily led by Toh Chin Chye, who was the founding chairman of the People's Action Party. He served as the Chairman of the Board of Management of Singapore Polytechnic when he was Deputy Prime Minister. Then he became the Vice-Chancellor of the University of Singapore in 1968 while he was serving as Minister for Science and Technology. According to Lee and Tan (1996), Toh Chin Chye chose to lead the school by himself because he considered that the reform of the university was an urgent issue for nation-building. Under the leadership of Toh from 1968 to 1975, both schools experienced many changes at the time, so that his reform was often described as Napoleonic (*ibid.*). His reform can be summarised by two purposes: to train the workforce required and to create a national identity (Lee, 2008). In order to achieve the former purpose, Singapore Polytechnic began its degree programme, and the University of Singapore opened

several practice-oriented departments such as architecture and accounting. For achieving the latter purpose, the university needed to be decolonised. This radical change also caused opposition from existing academic staff in the University of Singapore and resulted in the resignation of some academic staff because Toh's reform was considered as excessive intervention by the government (Lee, 2008).

Decolonising the university

Decolonisation of the university involved weakening the power of foreign professors and strengthening the power of the state. Ong Pang Boon again argued the importance of 'decolonisation' of the university in his speech in 1965 by citing a report written by Wang Gungwu from the Nanyang University Curriculum Review Committee:

The University cannot depend on outside teaching staff for an indefinite period of time. There must be every opportunity for the employment of young but highly qualified local graduates with a deep understanding of the conditions in the region. In this way, the University will play an increasingly valuable role in the service of our society. (Ong, 1965)

To do so, the university eliminated the tenure of newly employed foreign professors and made it easier to terminate contracts with any academic staff without having to give a reason to do so (Lee, 2008). The government also asked to remove some academic staff who were members of the opposition party and tried to restrict the admission of students from Chinese schools due to its concern over communist infiltration of the university (Gopinathan, 1989). Such actions by the government led to clashes between the university and the government, since academic freedom was considered as an important value among existing academic staff both from Singapore and elsewhere due to the influence of the British university system (Lee and Tan, 1996). For example, B. R. Sreenivasan, the first Vice-Chancellor of the University of Singapore, resigned due to a conflict with the government regarding the issue of the academic freedom and the power of the university to choose students to be admitted to the university (Baker, 2014; Lee, 1990). The resignation of Sreenivasan shows that the university increasingly became a political organisation to support the government agenda.

The university played a passive role in economic development mostly by supplying skilled labour rather than leading the process. There were two ways for the university to support the government directly: through research and through academic staff. The Economics Research Centre was established in 1962 with the support of the Ford Foundation for conducting policy-oriented research, and some academic staff members assisted government agencies; for example, Lee Soo Ann did for the Economics Planning Division of the Ministry of Finance (Lee and Tan, 1996). However, the role of the university in economic development planning was not significant. Toh (1971) argued that the university was not important because of the existence of external advisers such as the ones from the United Nations, and that university staff did not have enough expertise in economic planning and development. In 1970, Goh Keng Swee, then Minister of Finance, also pointed out the inability of the university for nation-building by arguing:

We must make good the neglect of our universities of the past decade, when, for the reasons I have explained, they did not participate in the exciting transformation of Singapore from colony to a state in a federation, and then to a republic. (Goh, 1972: 242)

He viewed that the state does not need advice from the university but needs to guide it. In this regard, the university was not a leading institution in economic development and advancement of Singapore at least until 1980, when the state began to actively promote high-tech industries.

The merger of the University of Singapore and Nanyang University

The most important event in the higher education sector was probably the merger of the University of Singapore and Nanyang University in August 1980 as a bold move by the Singaporean developmental state. The merger was already foreseen to some extent in 1978 when the University of Singapore and Nanyang University decided to operate a joint campus scheme in the Bukit Timah campus of the University of Singapore to improve the English proficiency of students at Nanyang University (Lee, 1983; Seah, 1981). Then a full-fledged discussion on the merger began when Lee Kuan Yew met four British academics, including

Frederick Dainton, in June 1979 to discuss the future of the higher education sector in Singapore. He then invited Dainton to Singapore to produce a report to review the higher education sector in Singapore named 'Report on University Education in Singapore' in October 1979 for two days. The preliminary report written by him was submitted to Lee Kuan Yew in December 1979 recommending him to establish a single university in Singapore.

Dainton concluded that:

The arguments for maintaining two universities whether on two campuses or one (an absurd proposition) are extremely weak whilst those in favour of *a single, strong university at Kent Ridge* are compelling and I recommend accordingly (Dainton, 1979: 7 emphasis in original).

The final report by Frederick Dainton was released in March 1980. The conclusion of this report was as follows: the desirable total number of students for a university is 12,000 to 14,000, including 1,000 postgraduate students as of 2000; the half of them should be studying science-based subjects and the rest should be studying arts and social science subjects; one university at Kent Ridge is recommended rather than two universities in Singapore (Dainton, 1979). The government then quickly proceeded with the merger process in accordance with the recommendation. The parliament approved the merger in July 1980 and a month later, the National University of Singapore was finally established.

The merger also needs to be understood as a political decision by the state for nation-building. Nanyang University, taught in Chinese, clearly had several issues. English-educated elites were dominating the transformation of Singapore, and English had become the dominant language of the country. In this regard, the enrolment of Chinese-medium primary schools was being reduced, which means that the university also had difficulty in recruiting students (Gopinathan, 1991). However, the university tried to fix the issues by itself by choosing English as the language of instruction and exams (Wong, 2005). The merger needs to be understood in relation to two political issues: to integrate Chinese ethnic groups into Singaporean society by promoting English-based education and to suppress the growth of anti-government movements. Lee Kuan Yew viewed that Nanyang University was a source of

opposition to promoting an English-based society (KY Lee, 2000). Since ensuring education in English was one of the most important tasks for Singapore, the decision to merge was necessary for him. Furthermore, Nanyang University was already a place where activist students with communist ideology were nurtured, which caused much trouble to the government in the mid-1960s. It was expected that if Chinese-speaking students graduated from the university and could not find suitable jobs, they would oppose the government in the way they did in the 1960s. The merger was inevitable for Lee Kuan Yew and other leaders of Singapore to fix the issues of Nanyang University in the quickest and most economical way. Later, Lee Kuan Yew recalled that he wanted to do it earlier, but this was not possible due to the politics surrounding the university (KY Lee, 2009).

The campus of Nanyang University became the Nanyang Technological Institute in August 1981. The institute was managed by the National University of Singapore. The establishment reflects both political and economic conditions at the time. One year after the merger of the University of Singapore and Nanyang University in August 1980, the government decided to establish an engineering school at the National University of Singapore to train three-fourths of the engineers in Singapore in the future. Tony Tan, Vice-Chancellor of the National University of Singapore at the time, explained that Singapore needed two types of engineers: a small number of them for research and development activities and a mass of them for operating factories (*Straits Times*, 1980). Based on the newspaper article, the Ministry of Trade and Industry and the Economic Development Board projected that more engineering graduates would be required to fulfil the needs of industries in the 1980s (*ibid.*). In this regard, it was a rational decision of the state to support the industrialisation of the country. Later, in 1987, the school of accountancy was transferred from the National University of Singapore to the Nanyang Technological Institute. Nanyang Technological University was officially opened in July 1991 by merging the Nanyang Technological Institute and the National Institute of Education.

Nonetheless, the political aspects of the establishment of the Nanyang Technological Institute cannot be overlooked. Tony Tan justified the establishment of institute by arguing that the country needs engineers mostly for managing production lines, running factories, undertaking site and plant supervision, and doing maintenance work (ibid.). However, these roles could be done by graduates from polytechnics without higher education degrees. Such a perception was found among the government officials. Cham Tao Soon, the founding president of the Nanyang Technological Institute, recalled that Hon Sui Sen, then Minister of Finance, tried not to let the institute hire professor-level academic staff and told him directly:

You [Nanyang Technological Institute] are not a university, you are at best a glorified polytechnic. (Cham, 2014: 24)

Nevertheless, the institute was able to hire academic staff on the same terms as the National University of Singapore and eventually became the Nanyang Technological University in 1991. Such support of the government, in fact, was possible because of Lee Kuan Yew's promise to the management committee of Nanyang University to proceed with its merger with the University of Singapore in 1980 (Cham, 2014; Yi, 1982). He proposed to the committee to open a full-fledged university ten years later, on the campus of Nanyang University with the name 'Nanyang' with better facilities (ibid.). The establishment of the institute and later the university were already discussed before the merger. In this regard, the establishment of the institute needs to be understood not only as a pragmatic decision by the government but also as a political one.

5.2.2. Building new campuses in changing socio-economic and political conditions

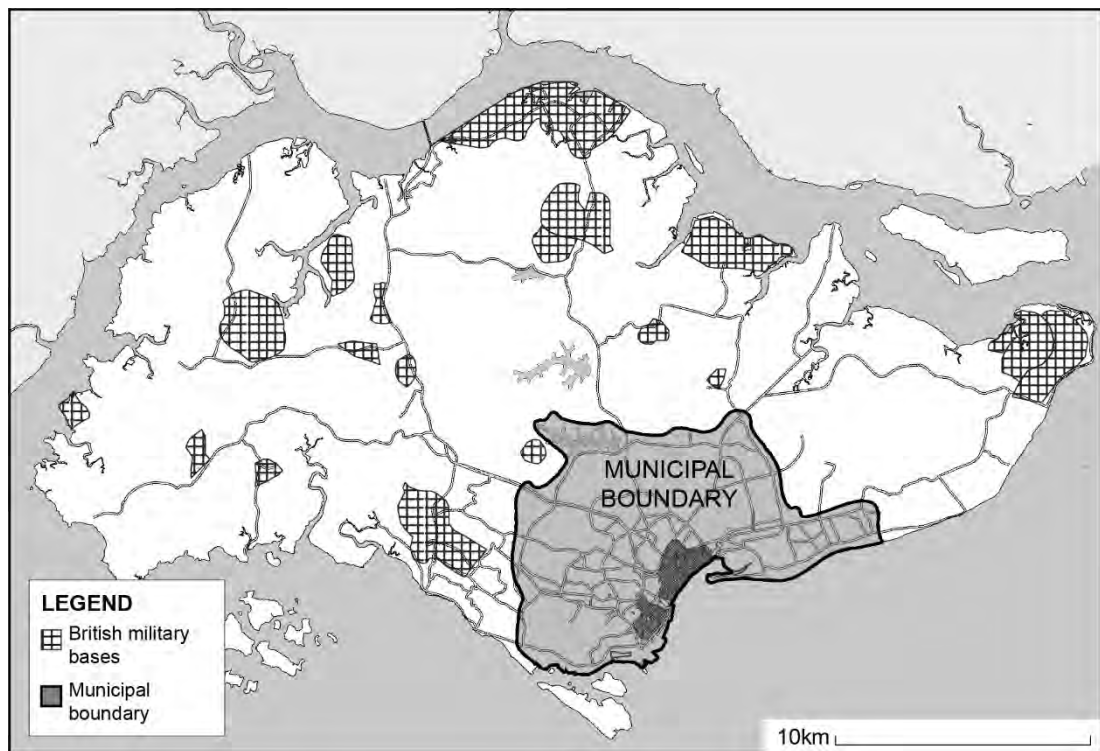
The university in Singapore was not an active actor in the urbanisation of the country since it was under control of the state, but the university's participation in the urbanisation process was more noticeable after the late 1960s. Urban development was one of the ways for the state to cope with the changing international circumstances, and the university was not an exception

in this process. By investigating the relationship between the withdrawal of British forces in Singapore and the new campus development projects of the National University of Singapore and the Nanyang Technological Institute, this subsection will conceptualise campus development projects as highly political processes.

The withdrawal of British forces as an opportunity

In Singapore, the university was understood to be a tool for urban and economic development from the late 1960s onward. This was largely related to the withdrawal of the British forces from Singapore. In 1968, the British government officially announced that it would withdraw its troops in the Far East due to its financial hardship resulting from the sterling crisis (Omar and Chan, 2007). Since the contribution of British military bases to the economy of Singapore was about 20 per cent of the GDP of Singapore with 30,000 jobs in direct employment and 40,000 in support services, the withdrawal of British forces had the potential to result in an economic crisis in Singapore (KY Lee, 2000). While Lee Kuan Yew tried to slow down the process and secure special aid from the British government, he also established the Bases Economic Conversion Department led by Hon Sui Sen in 1968 (Loh, 2011). The British forces used to occupy a substantial amount of land in Singapore, which was about one tenth of the territory of Singapore, as shown in Figure 5-8 (Chandra, 1993). These lands needed to be used in the most effective way to guarantee overcoming the crisis and sustain economic growth. With the technical support of the UK, some lands were used for the shipbuilding and aerospace. The university also utilised the opportunity of the withdrawal. Toh Chin Chye, Vice-Chancellor of the University of Singapore at the time, was the key person to lead the process to move the University of Singapore into the single campus in Kent Ridge, where a British military base used to be located. At the time, the campuses of University of Singapore were scattered in four locations. Toh believed that the university would grow further and that it was necessary to move them into a single campus to increase the efficiency of education and management. The former military base in Kent Ridge was the best place for him to put the national university. Oral history interviews of university officials done by the National

Figure 5-8 Map of British military installations before their withdrawal



Source: Author's own depiction based on Fung (1962), cited in Lim (1974: 17a).

Archives of Singapore are useful resources to understand the situation at the time. Lim Pin, who was Vice-Chancellor of the National University of Singapore from 1981 to 2000 for 19 years and Joanne Wong, who was Registrar of the National University of Singapore, point out how Toh Chin Chye led this process. Lim Pin (1997) and Joanne Wong (2011) both mentioned that the idea to move to the campus was initiated by Toh, and he went through several stages to negotiate the site with several stakeholders in the government and to obtain approval from the Cabinet. Most staff at the University of Singapore were not in favour of its move because they did not foresee the future growth of the university and felt that Kent Ridge was at a distance from the central area and difficult to access (Wong, 2011; You, 1996). Toh was a key person who made the decision against them and led the process of relocation.

The decision to move the university campuses into Kent Ridge also needs to be understood as a highly strategic decision by the state. It might be argued that Toh Chin Chye wanted the university to expand and that the Kent Ridge site was the only viable option for him at that time. However, this is not the case considering the various surrounding contexts. As mentioned

above, the British military bases had occupied ten per cent of total land in Singapore (Leong, 2005). Even though the activities of the Bases Economic Conversion Department were not properly documented due to the sensitivity of the issue, it is clear that the department needed to plan the uses of former bases cautiously (ibid.). Leong (ibid.), a former officer from the department, mentioned in an oral history interview done by the National Archives of Singapore that the department was under the direct control of Lee Kuan Yew and carefully made every decision after discussions with other government bodies such as the Ministry of Defence and the Economic Development Board. Since the lands were highly valuable, the government did not rush to develop them and left them empty until it found a suitable use for them. In this regard, a large amount of land near the current location of the National University of Singapore was empty until 2000, when the development of a new innovation district, one-north¹², began.

Foreign support for building the new campus

The campus of the University of Singapore was planned from 1969 with the support of international organisations. The site design was officially proposed by a UNESCO mission led by T. Barlag in November 1969 after reviewing nine sites in Singapore (Lee, 1970). To construct the new campus, foreign aid was necessary for the government since its construction cost for the first phase was estimated as S\$60.8 million (ibid.). UNDP and UNESCO offered technical assistance for campus planning, and the World Bank provided a S\$28 million loan to the University of Singapore for the first phase of campus development (Lim, 2009). In an interview done by Lee Geok Boi (1990), Toh Chin Chye mentioned that he was able to borrow money from the World Bank because the bank was cooperative in fostering engineering education for industrial development. S. J. van Embden, who designed several university master plans such as those for Eindhoven and Twente in the Netherland, was then appointed as a consultant to draft the master plan of the new campus at Kent Ridge in 1969 through UNDP and UNESCO and submitted it in June 1970 (Chow et al., 1989). After the submission

¹² Written in lowercase

Table 5-3 Changes in enrolment rates of the University of Singapore by subject

Subject of Study	1966		1977		Changes	
	Enrolment	Ratio	Enrolment	Ratio	Enrolment	Ratio
Science (+Pharmacy)	941	31.2%	739	12.6%	-202	-21%
Art and Social Science	843	28.0%	1421	24.2%	578	69%
Medicine	682	22.6%	612	10.4%	-70	-10%
Law	314	10.4%	448	7.6%	134	43%
Dentistry	197	6.5%	148	2.5%	-49	-25%
Education	35	1.2%	0	0.0%	-35	-100%
Engineering	0	0.0%	1036	17.6%	1036	
Architecture and Building	0	0.0%	503	8.6%	503	
Accountancy and Business Admin.	0	0.0%	973	16.5%	973	
Total	3012	100%	5880	100%	2868	95%

Source: Singapore Ministry of Education (1966); Lee (1983).

of the plan, the support from UNDP and UNESCO did not continue, but the university hired van Embden for two more years to continue his consultation service for implementing the master plan (ibid.). The construction work for developing the campus on a 191.4-hectare piece of land started in 1973 and aimed to accommodate 10,800 students in 1980 (ibid.).

The development of the new campus was largely led by the government. The University of Singapore Development Unit (USDU) was established in September 1969 and led the role to design and build the new campus. This unit consisted of five architects and three engineers and other staff members in 1972 (Jonquière, 1972). They mostly assisted by agencies of the government, such as the Public Works Department and the Housing and Development Board (ibid.). The first departments to move into the new campus were the Faculty of Architecture and Building and the Faculty of Engineering, which were newly established departments of the university and rapidly growing as shown in Table 5-3 (Lee and Tan, 1996). They moved to Kent Ridge in 1976 and 1977, respectively (*New Nation*, 1981). In this regard, the campus expansion process was primarily led by the state based on its priorities. The construction of

the new campus was mainly conducted by the Public Works Department, which was the government agency responsible for the planning, design and implementation of the public infrastructure development (ST3-NUS-INT-04, 2016).

The new campus of the University of Singapore was built by considering the practical aspects rather than the symbolic aspects. When looking into early buildings in the new campus, they are clearly distinguished from the buildings and quadrangles of Bukit Timah campus, which are inspired by the arches and corridors of historic English universities. One of my interviewees, who worked at the university from 1960 to 2004, recalled that the new campus looked like a factory when she firstly saw it:

[Pointing out one of Faculty of Science buildings] This is an original building of the campus. When I came here for the first time, I said 'God look! This looks like a factory!' You cannot imagine all glass structures you are looking at now. Different thing entirely. I mean that was how factory looked like. This could not be a university. (ST2-NUS-INT-01, 2016, 2016)

A prominent Singaporean architect Tay Kheng Soon also mentioned a similar issue in an interview done by Lien Centre for Social Innovation by mentioning that:

The next issue is the physical design of our schools today. My critique is that they are glorified factories; they are only appropriate in the industrialisation phase of Singapore. [...] The former [factory-like setting] operates a fixed left-brain biased curriculum with a set of outcomes that are predefined and easy for the Ministry of Education to evaluate. (Lien Centre for Social Innovation, 2011: 16–17)

Such a reaction is not surprising when considering its background contexts. The buildings were designed by government architects and constructed by the government construction company as mentioned above. The construction of the new campus had to be done in the most economical way. As noted earlier, the budget for the first phase of the university campus was S\$60.8 million. The total three phases of development cost S\$411 million in the end (*Business Times*, 1983). At the time, the university planned to increase its enrolment to 14,000 by the mid-1980s (Lee, 1983). The construction cost per student was almost half that of the Nanyang Technological Institute: the government decided to invest S\$160 million for the Nanyang

Technological Institute for accommodating 3,000 students in 1981 (Cham, 2014). These two projects cannot be directly compared, but these figures make it possible to guess how economically the new University of Singapore's campus was built.

Nanyang Technological Institute

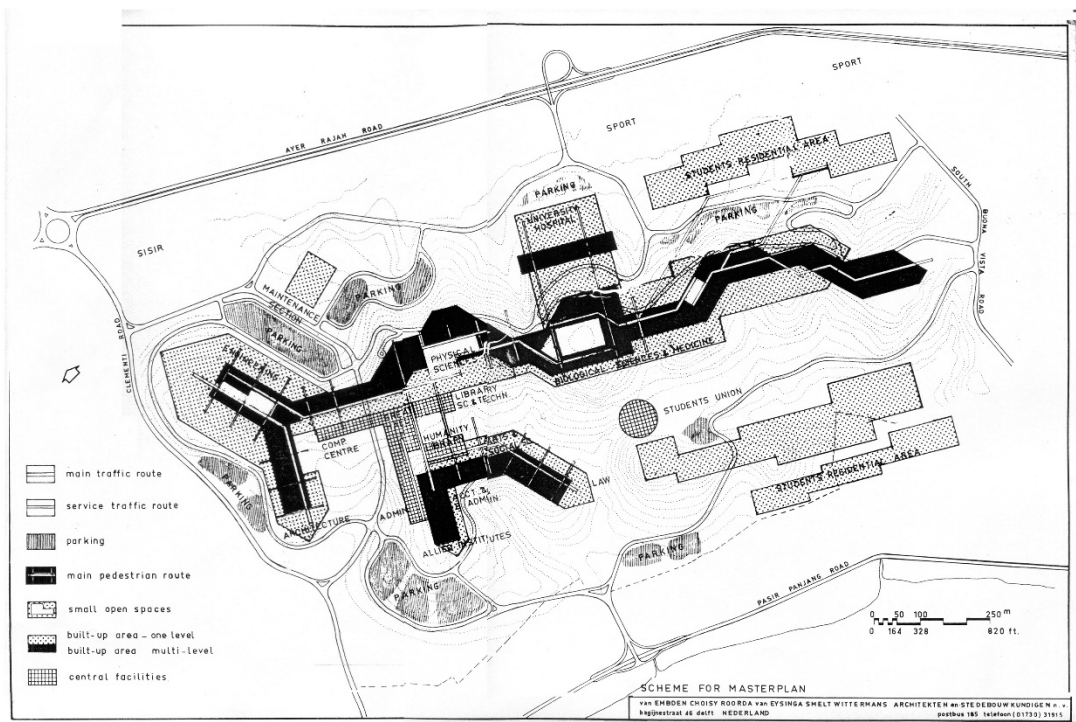
The Nanyang Technological Institute also conducted a major expansion on the former campus of Nanyang University since it was planned to expand further over ten years to be a university. The development of its campus could proceed quickly because of the willingness of the government to support the institute, as explored above. The government announced in January 1981 that S\$160 million would be invested in the new campus of the institute (*Business Times*, 1981a). Cham Tao Soon, the founding president of the Nanyang Technological Institute, recalled in his memoir that he submitted only a two-page proposal for its campus with S\$ 170 million budgets and it was approved within a week (Cham, 2014). The master plan of the campus was drawn by Japanese architect Kenzo Tange and developed and constructed by Indeco,¹³ which was a subsidiary of the government at the time established for providing overseas consultancy services for urban, housing and infrastructure development projects. The campus was also used by the 12th Southeast Asian Games Village in May and June 1983 to host 3,000 people (Cham, 2014; *Straits Times*, 1983a). The event was an opportunity for the institute to renovate its buildings and accommodations before the proposed major expansion of the campus (*Straits Times*, 1983b).

From an ivory tower to an anchor institution

Both universities in Singapore have expanded rapidly since the 1980s, but their campuses were still considered as self-contained and secluded places. Thus, the relationship between the campus and its surrounding neighbourhoods was not considered in its planning stage. The statement of the master plan for the University of Singapore at Kent Ridge clearly supports

¹³ Indeco is the acronym for International Development and Consultancy Corporation and was established in 1972 by the Ministry of National Development Holdings and the Urban Redevelopment Authority (URA) in Singapore.

Figure 5-9 The first master plan of Kent Ridge campus



Source: University of Singapore (1970)

this argument. The relationship with its surrounding neighbourhoods was not mentioned in the statement at all, but the concept of ‘town and gown’, which historically refers to the distinction between the university and community as noted by Mayfield (2001), was proposed for the new campus design (University of Singapore, 1970: 1). In this regard, the master plan drawings of the university only included the university itself and its neighbouring areas were not drawn as shown in Figure 5-9. Such an idea also emerged in an interview with a retired professor from the National University of Singapore. He pointed out that the concept of a university at the time was self-contained, like Oxford and Cambridge in the UK (ST2-NUS-INT-02, 2016). Given these factors, the role of the university in the urbanisation process was not accepted widely in Singapore at that time. For university planners, the university was not an active urbanisation actor but a separate entity from the city.

The government’s recognition of the area can be found from the development process of the new Pasir Panjang warehouse complex in the late 1970s. Pasir Panjang, the southern part of NUS, has been rapidly developed since the 1970s and has now become one of the major ports

of Singapore (Ho, 2016). The government began to consider the area as a potential site for a new warehouse complex in the early 1960s (Port of Singapore Authority, 1976). There were two reasons for this: 1) the area is located between Jurong industrial estate and the city centre; and 2) the soil for reclamation could be acquired from the nearby new town development project (ibid.). By doing so, the government eventually aimed to redevelop the existing warehouse area in the city centre (ibid.). The plan was officially announced in 1972, and the first phase was completed in 1977 (Ho, 2016). The idea of the warehouse complex development shows that the government still considered the area as peripheral and an alternative location for low-value land use in the 1970s as a small fishing village without considering the presence of the university. Such perception also shows the perception of the university and the city as separate entities, as mentioned above.

The perception has changed from the 1980s: NUS campus has become a catalyst for the development of the area. The examples are Singapore Science Park I, II and III, which are located right next to the campus of the National University of Singapore. Since the Singaporean government recognised the limits of economic growth based on low-skilled manufacturing industry, the government aimed to reorganise its industrial structure on the basis of high-tech industries in the 1970s (Corey, 1987). In this regard, the government planned to establish a technology park. In September 1979, the government announced to place the science park in the current site because the government aimed to promote interactions between industries and academia. This was modelled after the research and development complexes at Stanford University and the Massachusetts Institute of Technology (Chua, 2012; Khondker, 2003). Singapore Science Park I officially opened in 1984 on a 30-hectare piece of land, followed by Singapore Science Park II in 1994 and III in 2002, which have shaped the area as a hub of science and technology in Singapore (Chua, 2012). The presence of the university and science parks also resulted in the development of one-north, which is a flagship development project as a biotechnology, ICT and media technology hub promoted by the

government since 2001. The area near the Nanyang Technological University is also planned to be developed as a high-tech hub in Singapore (Borja, 2013).

The plan to develop the area as the centre of the knowledge-based economy emerged in 1991 through the National Science & Technology Board's National Technology Plan and URA (Urban Redevelopment Authority)'s 1991 Concept Plan. While the National Technology Plan indicated the 15km-long southwestern corridor, covering from the NUS to the NTU; the URA's plan included two corridors including the northeastern one (URA, 1991; Yeoh, 2017). The idea of technology corridors is one of the main features of the URA's plan (URA, 1991). The government aimed to build parks for high-tech and information and communication technology industries as well as high-quality housing, namely 'science habitats', for attracting and retaining top talents (ibid.: 21). Given the size of Singapore, which is only 42 km from east to west, it can be questioned whether the plan was realistic or not. Furthermore, the actual synergy between firms and institutions in the corridor is in doubt (Phillips and Yeung, 2003; Yeung, 2005). Nevertheless, the two government plans in 1991 show that the state began to consider the university as an anchor for economic development while uneven development was justified. Since then, the Kent Ridge area attracted several knowledge-led development projects including one-north as mentioned above.

5.3. Comparative analysis of the relationship between the developmental state and the university in Korea and Singapore

5.3.1. The developmental state's attempts to mobilise the university for economic development

Along with the emergence of the developmental state, the state's attempts to intervene in the university were frequently observed from the 1960s in both countries. These attempts related to two different but linked motivations: achieving economic development and political stability. To support the rapid industrialisation of the country, practical disciplines such as science and engineering, architecture, and accounting programmes were nurtured intensively to supply skilled labour. To do so, in Singapore, restructuring among higher educational

institutions was frequently conducted by the government. In Korea, since the state had got the power to determine the entrance quotas from the mid-1960s, the state attempted to increase the number of students in science and engineering programmes. Such a tendency shows that the state recognised the economic function of the university and tried to utilise it to support economic development of the country. However, the way of investing in the university was different. In Singapore, the higher education sector was dominantly funded by the state. In Korea, tuition fees were the major source of income of universities. Such a difference is based on the creation of these education sectors in two different countries as investigated in the previous chapter.

The results of the attempts by the state to take control of the university were different in two countries. The Singaporean state was successful in taking back control of the university, while in Korea, the university was a troublesome institution until the end of military rule in the 1980s. Such difference is based on the political function of the university. In Singapore, the state was more legitimate because the ruling party had taken the regime relatively lawfully through elections. It gave power to the state to nationalise the university. As Readings (1996) mentioned, the university played its traditional function to nurture elite citizens to support the state. The opposition institutions, such as Nanyang University, had to yield to the state by closing their doors. Such reform processes were directly controlled by politicians. Unlike Singapore, the military governments in Korea could not suppress the university to prevent their legitimisation crises because the governments did not fund private universities sufficiently and public demands for higher education could not be ignored. In this regard, Korean universities were a general field of struggle as Harvey (1982) mentioned. It eventually led to the radical social change in the 1980s.

Such a difference between both countries is due to the different dependence of the state on the university. The military regime in Korea needed the university for its legitimacy for producing economic development and ideological control strategies. Many university professors were also part of government committees to make decisions and provide advice related to policy.

Some professors even became ministers of the government (Kang, 2015). In Singapore, as Toh (1971) mentioned, politicians did not need much support from the university. One of the reasons was their connections to Western countries. The government frequently invited foreign professionals to make symbolic decisions in a similar way as in the colonial era. The report of Frederick Dainton for the merger of the University of Singapore and Nanyang University and S. J. van Embden's design for the new University of Singapore campus shows such a tendency. In this regard, the university was a subordinate of the state to supply the skilled workforce required for industrialisation and nation-building by offering practical education in Singapore. Such a perception only changed in the 1980s when the new economy was becoming an important agenda for the East Asian state.

Overall, the higher education sector in East Asia enables us to see the diverse aspects of the developmental state. Woo-Cumings (1999: 2) defines the developmental state as 'the plan-rational capitalist developmental state, conjoining private ownership with state guidance'. This widely used concept of the developmental state easily poses a problem for understanding the higher education sector in both countries. In the case of Korea, private ownership and state guidance were found in the sector, but both were frequently ruptured. State guidance often resulted in more negative effects. For example, the Satellite Campus Policy in the late-1970s served the material interests of private universities by allowing them to expand their campuses and enrolment quotas significantly, but these campuses turned out to barely contribute to relieve congestion in the capital region. In Singapore, the state took over private ownership of universities to utilise the sector more effectively. While there were options to negotiate university and state interests, the state chose the most economic and quickest way to merge the two universities in Singapore. The higher education sector under the developmental state shows that diverse aspects of the East Asian developmental state resulted from their variegated socio-political contexts.

5.3.2. University campus for uneven and even regional and national development

The East Asian developmental state also tried to utilise the university in the spatial development of the region and the country while the micro dynamics in its neighbourhood and city were relatively ignored. Such practices were affected by both external and internal pressures such as growing public demand and the withdrawal of British forces from Singapore. The government policies were often opposite to the rational choice such as in a way to prevent to produce a geographical concentration of high-valued activities as investigated in Chapter Two. Such a tendency was related to the legitimacy of the state and the historical relationship between the state and the university as discussed above. The idea was only shifted in the late 1980s in a way to utilise the built environments more actively.

In Korea, there were attempts by the state to achieve even more development of the national territory, but the results were insignificant, and often contrary to what was intended. The Capital Region Regulation and the Satellite Campus Policy were the two primary policies in relation to the urbanisation process and higher education institutions under the developmental state in Korea. From the 1960s, the state has perceived the university as an institution which is highly related to the urbanisation process of Korea. It is believed that the university is one of the major drivers to attract the rural population to Seoul. In this regard, the state tried to control the university in order to restrain population growth in the capital region and develop lagging regions in two ways: by restricting the activities of universities in Seoul and encouraging them to open their satellite campuses in lagging regions. However, unlike the widespread belief in the development state in East Asia, these policies were not successful in general. The population of Seoul and the capital region kept increasing, as well as the size of universities in Seoul. Private universities in Seoul also utilised the Satellite Campus Policy as an opportunity to increase capital gains while opening their new campuses near the capital region.

Under the Singapore developmental state, the urban development and the property sector has been an important driver of the economy, as argued by Haila (2000, 2016). The higher education sector has played multiple roles, including not only supplying skilled labour but also participating in the territorial development of the country. This process was led primarily by the state as in the case of the Kent Ridge campus of the National University of Singapore. The Singapore state had to respond effectively to withdrawing British forces from Singapore in the late 1960s. The state mobilised the University of Singapore and other educational institutions to fill the gap resulting from the withdrawal, which was around ten per cent of the entire Singapore territory. Such a decision shows that the state recognised the university as a highly strategic institution to support the economic and urban development of the country. Nevertheless, the findings in this chapter also show that the university in Singapore was not an active urbanisation actor under the developmental state. The university has been a driver to shape its neighbourhood, but there was no master plan or intention to integrate the university with surrounding urban fabrics until 1991, when the technology corridor concept emerged.

The concept of the knowledge economy has emerged and reflected the territorial development strategy of the developmental state when the concept of 'entrepreneurial city' emerged in the West. The main example discussed in this chapter is the southwestern technology corridor of Singapore introduced in 1991: the Singapore Science Park was planned from 1979. From then on, the area has developed further as a knowledge and innovation hub of Singapore. There was no development project conducted through the designation of the corridor until the late 1990s, but it shows how the state changed its recognition of the university as a core institution for securing the competitive advantage of the country, as argued by Harvey (1989). By concentrating knowledge-related institutions and firms, the state tried to increase more capital in the country and produce more surplus value. Such a strategy was also found in Korea, even though it was not investigated in the empirical chapter. The government drafted a plan to develop the Daedeok area, located in the middle of Korea since 1973 (Nam, 2015). The plan was delayed but completed its initial phase in 1992 (ibid.). The Korea Advanced Institute of

Science and Technology (KAIST) was moved into the area in 1990. Such ideas of the state show the spatial strategy and spatial selectivity of the state as argued by Brenner (2004: 89, 93). The university was an essential element to achieving this strategy.

Summary

This chapter investigated the relationship between the developmental state and the university. While constant cooperation and conflict between the state and the university was observed in Korea, the Singaporean state effectively nationalised the university. In Korea, during this period, the state began to recognise the university as an important urbanisation driver and tried to utilise private universities to achieve the balanced development of the national territory. Private universities, however, chose to pursue their own material interests instead of following the direction of the state. Since private universities in Korea were not financially stable, as their heavy dependence on tuition fees shows, universities were required to finance a large amount of money from external sources to expand their campuses. The weak financial status of the university led either to the corruption of the university or to a problematic relationship between the university and its corresponding *chaebol*. As the case of Yonsei University shows, the university collaborated with the *chaebol* to support each other, and the built environment was a medium that connected them.

The university under the development regime was still symbolic in Singapore as an institution for nation-building, but the university has since begun to play a pragmatic role for the country. To achieve these goals, the government actively intervened in the university and accelerated the change of it by expanding certain departments and merging universities. Also, during this period, the university emerged as an important urbanisation actor. The university was recognised as a strategic institution for the economic and urban development of the country. The major events regarding this were the establishment of the National University of Singapore and the opening of its new campus in Kent Ridge. The university was considered as an institution which was able to effectively respond to the withdrawal of the British forces

from Singapore in terms of economic and urban development. The university has also attracted technology-oriented institutions, and the area eventually has become a high-tech centre in Singapore.

Chapter 6: Locating neoliberal universities in East Asia

6.1. The postdevelopmental state in Korea and the legacies of the university System

6.1.1. Higher education policies under the Korean postdevelopmental state

6.1.2. The new urbanisation process and the speculative university in Korea

6.2. Globalising Singapore and new universities

6.2.1. Globalising the higher education sector and the birth of entrepreneurial universities in Singapore

6.2.2. The state's continuing attempts to mobilise universities for urbanisation

6.3. Comparative analysis of universities in Korea and Singapore in the postdevelopmental era

6.3.1. A more complex state-university relationship in the postdevelopmental state

6.3.2. The corporatised university and the real estate sector

In the 20th century, the visible hardware, such as capital, labour, and land, was at the heart of the economy. However, in the 21st century, the invisible software – knowledge, information, and creativity – is at the heart of the economy. We must adapt to this age. (Korean former President Kim Dae-Jung, 2000)

Knowledge and innovation will be absolutely critical ... Companies and nations which organise themselves to generate, share and apply new technologies and ideas more quickly than others will, like the early bird, catch the worm. (Former Prime Minister of Singapore Goh Chok Tong, 1997)

Knowledge and innovation have emerged as the core ideology of East Asian countries since the mid-1990s as stated by the two leaders of the countries quoted above. In the process of introducing various economic development strategies related to this shift, universities have attracted attention as knowledge and innovation producers. Various new higher education policies have ensued.

Does this change mean that the relationship between the developmental state and the property sector has weakened? To answer this question, this chapter will first investigate the transformation of the higher education sector in Korea and Singapore. Then, it will examine the relationship between the state and the university, focusing on the urban and regional planning perspective. Lastly, it shows the emerging relationship between the university and the property sector.

6.1. The postdevelopmental state in Korea and the legacies of the university System

This section is divided into three parts. The first subsection focuses on the introduction of neoliberal higher education policies in Korea since the mid-1990s. How universities have been affected and reacted to such change will be briefly investigated. The second subsection, then, moves to the relationship between the university and the urbanisation process and the real estate sector. The two major cases under consideration are the relaxation of the Capital Region Regulation and the growth of university endowment funds as the distinctive cases of the previous period. Finally, the last section focuses on the case of Yonsei University, the main

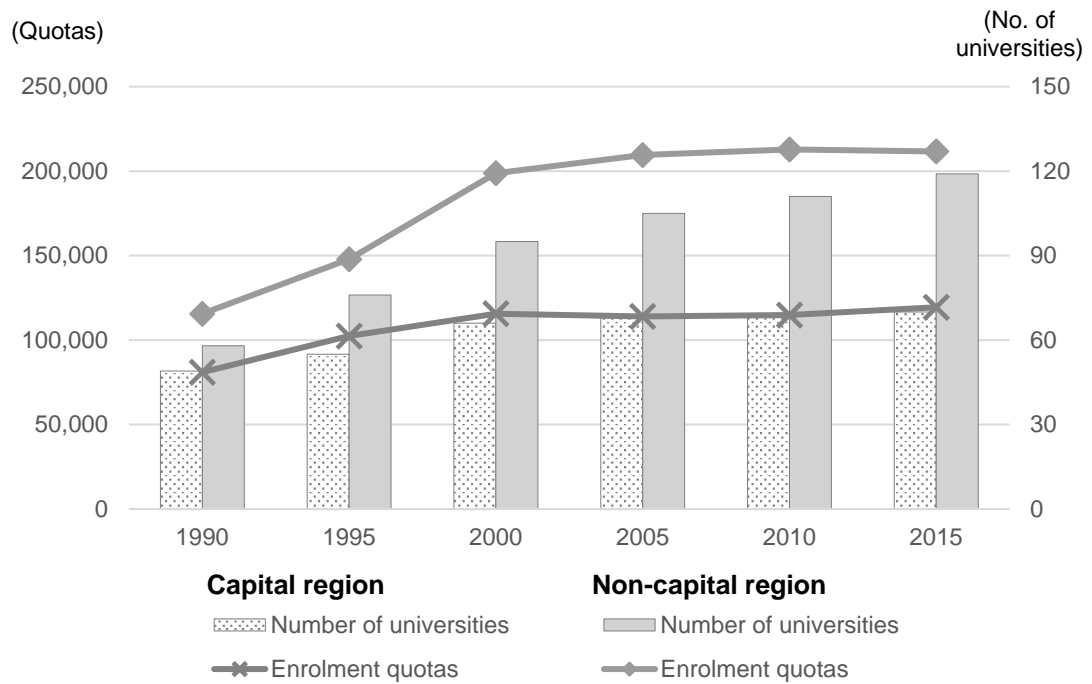
empirical research site. How the physical space of the university has been expanded internally and externally will be investigated, followed by an analysis of the role of its endowment fund.

6.1.1. Higher education policies under the Korean postdevelopmental state

The current stage of higher education development in Korea is often defined as the liberalisation period, as mentioned in the previous chapter. Various liberalisation policies have been introduced for higher education institutions in Korea since the first civilian president for three decades was elected in 1993. The government then aimed to increase competition between universities in order to improve the quality and productivity of universities by introducing a series of deregulation policies (Im, 2008; Jang, 2009). Such policies include the introduction of the normative system for the establishment of higher education institutions in 1996. Previously, a private university could be established after clearing several stages set by the government. The new system only requires an educational foundation to meet the minimum requirements to establish a private university. The requirements have been reduced into four categories: land, buildings, academic staff and profitable assets. Under the new regulation, if a foundation fulfilled the requirements, the government had to approve it to open a university only with few exceptions. This deregulation led to the establishment of many universities. There were 134 universities in Korea in 1996. Ten years later, in 2006, the number of universities in Korea increased by 30.6 per cent to 175.

While on the surface, newly introduced policies led to the expansion of universities, the expansion was concentrated in private universities in non-capital regions in Korea. Along with the relaxation of regulations on the establishment of private universities, another important deregulation policy is the gradual release of enrolment quota restrictions. As investigated in the previous chapter, the enrolment quota was set up and distributed to universities annually by the government. From 1996 to 1999, the government gradually gave private universities in Korea the discretion to decide their enrolment quotas without the permission of the government.

Figure 6-1 The increase of the number of four-year universities and enrolment quotas in South Korea (1990–2015)



Source: Korean Ministry of Culture and Education (1990); Korea Institute of Curriculum & Evaluation (1995); Korean Educational Development Institute (2000, 2005, 2010, 2015).

When the deregulation took effect from 1996 to 1999, the enrolment quota was increased 16.9 per cent from 266,195 to 311,240. However, despite the series of deregulation policies, universities in the capital region were still regulated by the Capital Region Regulation. Figure 6-1 shows the expansion of universities in Korea. The number of universities and the number of enrolment quotas in non-capital regions have increased relatively more steeply than in the capital region.

Deregulation policies are considered to be neoliberal, but the state intervention is still being observed until now. As mentioned earlier, the basic assumption for deregulation policies was to improve the quality of higher education through competition (Im, 2008). In this process, lower-quality universities were expected to be naturally withdrawn because students would not choose to enter such universities. However, such policies have not been effective since the 2000s as Figure 6-1 shows. The increase in the enrolment quota began to stabilise even in universities in non-capital regions. Three relevant reasons can be elaborated in relation to the

decline of deregulation policies: Firstly, the government re-introduced an interventionist approach to control private universities due to the decline in students entering universities since Korea is becoming an ageing society (Chae and Hong, 2009; Kim, 2008). Secondly, universities in the capital region, where elite universities are concentrated, have been still strictly regulated by the government and cannot expand. Lastly, the government still utilises direct and indirect tools to control universities, including executive orders and funding allocation (Kim, 2016; Shin and Park, 2007). Overall, the state has clearly still been recognisable in the higher education sector in Korea until now.

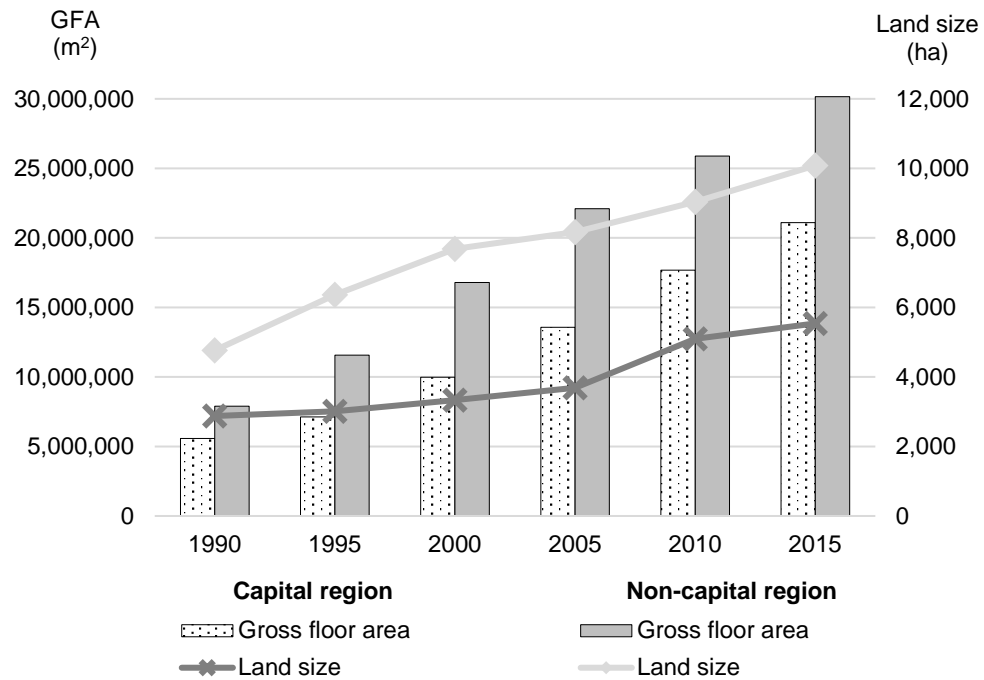
While the state continues to exist, the university itself has become more and more corporatised. As investigated in previous chapters, private universities in Korea have been asset-based institutions from their inception. The corporatisation process has been accelerated since the government introduced neoliberal higher education policies from the mid-1990s: even former Korean President Roh Moo-Hyun, who was considered a progressive person, stressed such policies by arguing that ‘the university should be industrial and industrialised’ in 2005 (Koh, 2010; *Yonhap News*, 2005). The most critical aspect of the corporatisation of universities in Korea is strengthening their links with the conglomerates, as pointed out by Kim (2010). Several universities, such as Chung-Ang University and Sungkyunkwan University, have been taken over by *chaebol* groups like Samsung and Doosan. *Chaebol* also has been emerged as a major sources of university endowment funds from the mid-1990s while entrepreneurial-minded university presidents have become the model (Kim, 2010). This corporatisation trend suggests that the role of universities in Korea in the urbanisation process also has been shifted from the mid-1990s. The following section will investigate the shifting relationship between the state and universities, and discuss their emerging development patterns in the urbanisation process in Korea since the 1990s.

6.1.2. The new urbanisation process and the speculative university in Korea

As investigated in the previous chapter, under the developmental state, universities have been utilised to support the spatial restructuring process of the state. There have also been various attempts to abolish the Capital Region Regulation since the mid-1990s, when the knowledge economy had become an important part of countries in East Asia and securing regional competitiveness had become an important agenda for the state (Y-S Lee, 2009). Deregulation in the higher education sector is also associated with the shift to a knowledge-based economy (Presidential Commission on Education Reform, 1997). Nevertheless, the establishment of four-year universities in the capital region has still been restricted until now. Especially, the growth of universities in the capital region has stagnated because the interventionist approach has been re-introduced from the mid-2000s due to the expected shrinkage of the higher education sector in Korea. Figure 6-1 above shows that the number of universities in the capital region only has increased by 6.1 per cent from 66 to 70 in 15 years, while the number of universities in the non-capital regions kept increasing by 25.3 per cent, from 95 to 119, during the same period. In this regard, the Capital Region Regulation is still an effective means to control the enrolment growth of the higher education sector in Korea.

Nevertheless, the existing Capital Region Regulation has not controlled the expansion of their campus spaces. Figure 6-2 shows the increasing physical expansion trend of the higher education institutions in Korea from 1990 to 2015. While the number of new university students has stagnated both in the capital and non-capital regions, the size of campus and buildings keep expanding regardless of their locations. As Hill et al. (2012) argued, the neoliberal political project has become more visible in East Asia including Korea, and cities and regions have been affected in this process. In this regard, it is also expected that the role of universities in the urbanisation process in Korea has evolved in a neoliberal way while they keep expanding their territories. The remainder of this section examines two-way trends: top-down and bottom-up. Top-down expansion is the state's attempt to utilise the university to

Figure 6-2 The increase of gross floor area and land of universities in South Korea (1990–2015)



Source: Korean Ministry of Culture and Education (1990); Korea Institute of Curriculum & Evaluation (1995); Korean Educational Development Institute (2000, 2005, 2010, 2014, 2015).

Note: 1) Land size in 2015 is based on the 2014 data.

promote regional development from the mid-2000s, but its direction is into the capital region, which is opposite to the previous era. This came about as an alternative to side effects resulting from the relocation of US military bases in the capital region. Bottom-up expansion represents cases where the university becomes a more active agent to expand its campus by negotiating for more real estate with multiple levels of government and the private sector.

The relocation of US military bases in the capital region

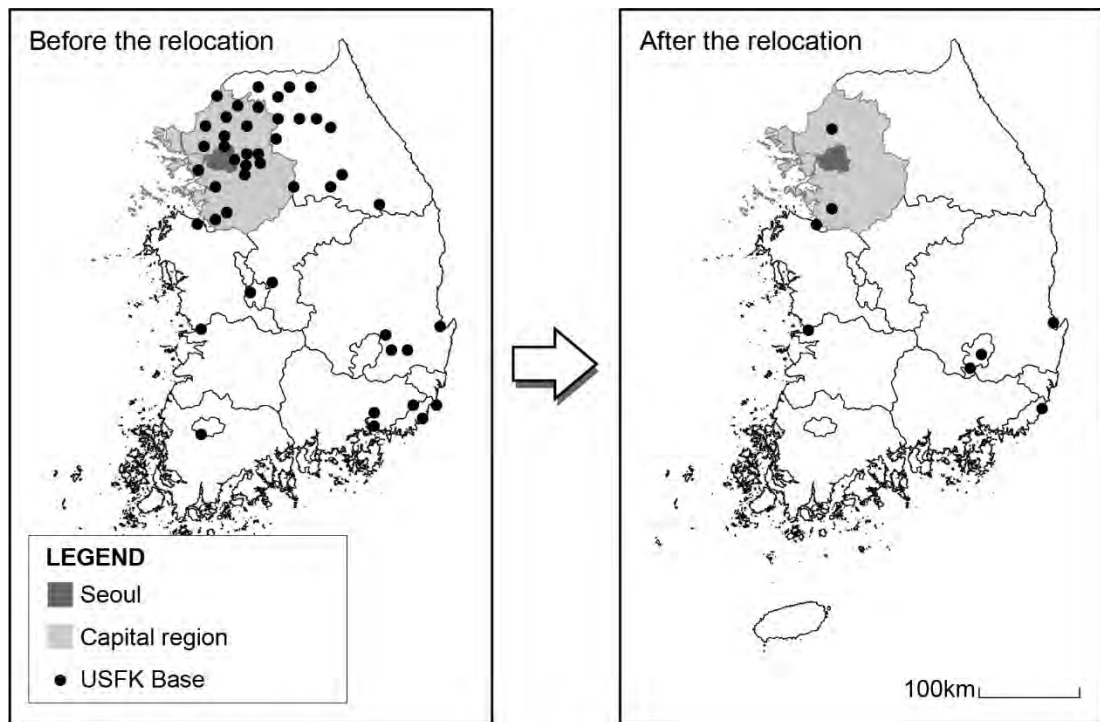
From 2006, there has been another attempt by the state to utilise the university for regional development, mainly due to the relocation plan of United States Forces Korea (thereafter USFK). As discovered in the previous chapter, the state attempted to utilise the university through the Satellite Campus Policy for promoting regional development in the late 1970s. The purpose of the Satellite Campus Policy was to develop non-capital regions, particularly the southern part of Korea by giving incentives to private universities in Seoul to open their branch campuses outside Seoul. The new policy, on the other hand, was to allow the

establishment of universities in several municipalities including a large part of the capital region where the establishment of universities has been strictly regulated. Thus, from 2006 to 2012, 15 universities announced their plans to move into or open their branch campuses in the capital region while only five universities had plans to move within non-capital regions (Korea Higher Education Research Institute, 2013a). This relocation trend of universities to the capital region was made possible by the relocation of USFK.

US forces have been stationed *in* the southern part of the Korean Peninsula after the liberation of Korea from Japanese occupation in 1945. As in the case of Singapore, which was investigated in the previous chapter, a large part of the land was occupied by the military force: there were 93 USFK bases in Korea, occupying 24,207.0 ha of land in Korea as of 2015 (National Assembly Research Service, 2015). The September 11 attacks in the US in 2001 led to the shift of the US military security strategy toward more flexible actions against potential threats such as terrorism, and a series of discussions between the US and Korean government were held to relocate the USFK bases in Korea as a part of the new strategy (Yoon, 2015). This idea was developed in the Land Partnership Plan (LPP), which was approved by the National Assembly of Korea in October 2002 and reached a final agreement in December 2004 (Office of the Prime Minister Special Commission on USFK Affairs, 2005). Overall, the implementation of the plan has resulted in the reduction of military bases in Korea, as shown in Figure 6-3.

Overall, the economic contribution of the USFK has not had a substantial impact on Korea's national economy: a study in 2004 argued that its direct economic contribution to the domestic economy was estimated to be around USD 1.3 billion, and that it was hiring 12,000 Korean employees (Kwon, 2011). However, the relocation of bases created a critical situation in some municipalities where the bases used to be important parts of the local economy. In Gyeonggi Province, 21,061.1 ha, 87 per cent of the total base area was located, since the capital region as the political and economic centre of Korea, needed to be defended (National Assembly Research Service 2015). Among them, 17,252.3 ha, accounting for 81.9 per cent of the existing

Figure 6-3 Relocation plan of USFK bases in South Korea

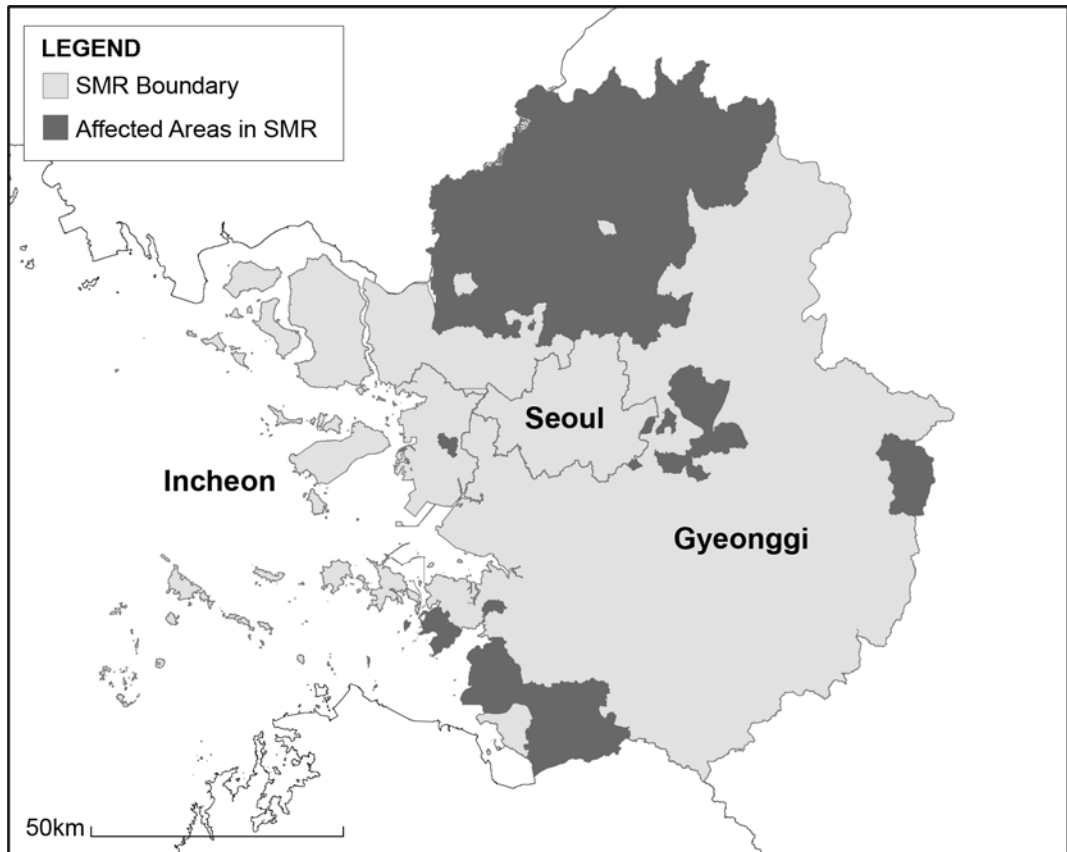


Source: Author's depiction based on the Office of the Prime Minister Special Commission on USFK Affairs (2005: 7).

land in Gyeonggi Province, have been returned or are in the process of returning as of 2015 (National Assembly Research Service, 2015). Similar to the case of Singapore in the late 1960s, the relocation of military bases could be a serious threat to municipalities that were economically dependent on them. For example, in Dongducheon-si, which is located in the northern part of Gyeonggi Province bordering North Korea, 42.5 per cent of its municipal land used to be occupied by USFK, and 32.6 per cent of Gross Regional Domestic Product (GRDP) came from USFK bases in 2005 (Kwon, 2012). In this regard, the state was required to take actions against their relocation to minimise negative effects.

As a countermeasure, the government tried to give incentives to the regions where USFK bases were to be located by enacting the Special Act on Support or Areas, etc. adjacent to Districts Granted to the United States Armed Forces in Korea in 2006. The act applies not only to USFK bases but also to areas surrounding the base. In this regard, a large part of the land in Gyeonggi Province has been affected by this act. The total size of the municipalities affected by the act is 335,525 ha, which is 33.0 per cent of the total land of Gyeonggi Province (see Figure 6-4).

Figure 6-4 Municipalities affected by USFK base relocations in Gyeonggi Province and Incheon Metropolitan City



Source: Author's depiction based on the Special Act on Support or Areas, etc. adjacent to Districts Granted to the United States Armed Forces in Korea

Under this Act, the municipalities are allowed to perform a variety of activities previously restricted in the capital region including the establishment of large-scale factories and universities. As a result, universities have been able to relocate or expand their campuses relatively freely in these areas. Several municipalities started their discussions with private universities for attracting them to their regions.

Such incentives led several private universities to establish their branch campuses in the northern part of Gyeonggi Province, but there were many obstacles to getting incentives mainly due to conflicts of interest between government departments. Thus, as of 2017, only four universities have opened their branch campuses, and two universities are preparing new ones. The total number of their enrolment quotas is less than 10,000, which is smaller than the average number of students in a university in Korea. Given this situation, it can be considered

that the Act has not been effective enough to attract universities to expand their campuses in former US military base areas. In the case of Paju-si, where 13.9 per cent of the land was occupied by USFK bases, the local government tried to attract three universities onto three different former bases. In the end, the three universities suspended the project due to the land cost issues (*Daily UNN*, 2008, 2010, 2011). The land of the former USFK bases is not provided free of charge to municipalities. Universities wishing to expand on the military base land had to negotiate with the Ministry of National Defence, and land prices were appraised based on their potential value. For example, regarding the proposal to open a branch campus of Ewha Woman's University in Paju-si, the Ministry of National Defence appraised the value of the land at KRW 175 billion while the university valued it at KRW 65.2 billion (*Ewha Weekly*, 2011). Despite the relaxed regulation, without government support, universities have had difficulties in expanding their branch campuses in the capital region. In this respect, this policy had difficult succeeding.

The reason for the failure of the state's attempts to grow the economy of former USFK base regions through accommodating universities can be found in the growing tensions between the national and the local in Korea. The central government had two priorities: firstly, it needed to partly fund the new USFK military bases resulting from the relocation. According to the LPP, most USFK bases in the capital region are merged into a 1,467.7 ha-sized base called Camp Humphreys in Pyeongtaek-si, one of the US' largest overseas bases. The relocation and expansion cost is estimated at KRW 16 trillion, and the Ministry of National Defence is expected to cover more than KRW 8.9 trillion (*Hankyoreh*, 2008, 2017). The Ministry aims to cover the cost by selling the former base land to local governments and private entities. In this regard, the Ministry needs to maximise profit from the disposition of land to reduce additional costs. Therefore, there are difficulties to find an agreement on the land price between the Ministry and universities as mentioned above.

Secondly, the government is trying to raise the level of control over private universities. As mentioned above, the decline in students entering universities due to lower birth rates has

become a major concern of the Ministry of Education. In this regard, the government introduced a plan to reduce the total entrance quota of universities by 160,000, which is 29 per cent of the total entrance quota of two-year colleges and four-year universities in 2010, over eight years from 2014 to 2022 (*Hankyoreh*, 2016; Korean Educational Development Institute, 2010). To do so, the government introduced various regulations to freeze the quotas, while encouraging universities to cut their quotas by themselves through various financial incentives (Korean Ministry of Education, 2014b). As part of this policy, from 2015 to 2017, the government did not allow universities located in the former USFK base regions to increase their entrance quotas despite the special act mentioned above (Korean Ministry of Education, 2014b, 2016).

These two issues of the central government tend to override local economic and social issues resulting from the relocation of USFK bases. Since the introduction of the Local Autonomy system in 1991, local governments in Korea have had more rights and responsibilities, and the decentralisation has again been actively promoted since 2003 (Park, 2008). However, despite this decentralisation practice by the state, the financial basis of the local governments, where the USFK bases were located, is relatively weak; thus, they cannot actively pursue local development projects without support from the central government. As can be seen from the government statistics in Table 6-1, the municipalities where USFK bases used to be located or exist have weaker fiscal bases than average municipalities. Particularly, municipalities with former USFK bases located in the northern part of the capital region are more financially vulnerable than other municipalities in the capital region as well as average municipalities in Korea. Even though the development restriction of these regions by the Capital Region Regulation has been much relaxed, private universities and local governments as financially vulnerable organisations cannot mobilise their power against national scale interests.

Yonsei University's campus expansion project

Yonsei University did not attempt to open its campus in a former USFK base but has actively participated in other expansion activities as well as real estate investment activities. Now the

Table 6-1 Fiscal self-reliance ratio of local finance of major municipalities with former USFK bases in the northern capital region in 2015

Regions		Self-reliance ratio
National average		50.6%
Capital region average		73.3%
Municipalities average affected by the USFK relocation		30.5%
Major municipalities with former USFK bases in the northern capital region	Average	30.9%
	Dongducheon-si	18.5%
	Paju-si	44.0%
	Uijeongbu-si	30.4%

Source: Korea Ministry of the Interior (2016).

university has become a model for other universities due to its well-known achievements (*Hankyung Business Weekly*, 2005).¹⁴ Regarding its main campus, the size of land has stayed at the same level since its surrounding area was fully built up, but its total gross floor area has increased until now. Table 6-2 shows the changes of the total gross floor area of the main campus buildings. Over 20 years from 1994 to 2015, the campus space has increased 2.7 times while the number of registered students has stayed at a similar level, which is around 35,000 due to the existing Capital Region Regulation.

Such an increase implies that the university has actively invested in construction activities, and its cost was largely covered by student tuition even though Yonsei University's ratio of dependence on tuition fees is lower than the average. The average ratio of dependence on tuition fees of all private universities in Korea in 2015 was 54.7 per cent, but the ratio of Yonsei University was 33.2 per cent, which is the ninth lowest dependency ratio among them (Korea Higher Education Research Institute, 2017). However, while the university spent the

¹⁴The primary example of expansion projects is its new satellite campus, which is the largest campus expansion project in its history. The university opened the new Songdo campus on a 61.6-hectare newly reclaimed piece of land in the Incheon Free Economic Zone in 2010. This case will be examined in-depth in the next chapter.

Table 6-2 The Increase of the gross floor area of Yonsei University Sinchon Campus
(Unit: m²)

Year	1975	1990	1994	2005	2015
Total gross floor area	134,773	343,557	398,111	820,042	1,075,427

Source: Yonsei University (1976, 1991, 1996, 2006b); Korea Council for University Education (2016).

largest amount of money for construction activities among private universities in Korea between 2008 and 2012, the Education Foundation of Yonsei University barely supported them. While the university spent KRW 274 million for construction and real estate-related activities during the period, the foundation supported only 0.05 per cent of the overall cost (Kim, 2013). As Board of Audit and Inspection of Korea (2011) mentioned Yonsei University as a case in its special report on an investigation of private universities, students' tuition has been actively used to fund construction activities (*JoongAng Daily*, 2011).

The university has also enjoyed the support of *chaebols*. The recent major expansion projects of the university include expansion of the Central Library, the new School of Business building and the underground development project named the 'Baekyangro Recreation' project. For the most of the projects, the university successfully raised funding through donations from *chaebols*. For example, the new extension of the Central Library in 2008 has been named as Yonsei-Samsung Library, since Samsung donated KRW 30 billion for the construction (*Yondo*, 2009). This accounted for nearly half of the construction cost. The other two projects also received KRW 10 billion each by the owner of Kumho Asiana Group and the one of AmorePacific Corporation respectively. Daewoo was the major donor for the university in the previous era as investigated in the last chapter, but since 2000, more *chaebol* groups have been donating their money to elite universities, including Yonsei University, even though the amount is comparatively less than what Western elite universities are receiving. The most notable feature of these donations is that most of them are used for new buildings: such amounts of money have never been donated to universities for other purposes.

As the university is more actively promoting expansion, conflicts are observed more frequently in the way projects are carried out. The recent case is the ‘Baekyangro Recreation’ project completed in 2015, which was a project pledged by the former University President Jeong Kap-Young during his election period. The project adds 64,880 m² underground space of the campus made up of four basement floors with 1,050 parking spaces and some educational facilities, using a KRW 90 billion project budget (Faculty Senate of Yonsei University, 2013a; Yonsei University, 2013). The university hospital takes priority over 900 parking spaces because the hospital funded KRW 30 billion (Faculty Senate of Yonsei University, 2013a). The project received the approval of the educational foundation in July 2012 five months after Jeong’s inauguration, but since April 2012, some professors and students raised several issues and asked for justice in relation to the project (*Yonsei Chunchu*, 2013, 2014). Despite such opposition, it was done before the new election of the University President as President Jeong planned in the beginning of his term of office. However, he failed to be reappointed in the end due to low approval ratings among professors and staff (*News 1*, 2015).

The major reason behind the fall of the President Jeong is believed to be his authoritarian leadership showed in the project (*ibid.*). Professors and students began to protest against the project in July 2013 because they thought the project was nothing more than adding more parking spaces for the university hospital with a plentiful amount of money and such money could be invested in improving the quality of education (Faculty Senate of Yonsei University, 2013a). Even though the university management insisted that the project proceeded without any procedural problems by having multiple consultations with members of the university, a large number of professors argued that they were misinformed and that the university did not accept their opinions at all (Faculty Senate of Yonsei University, 2013b; Yonsei University President Office, 2013). One professor compared the project with the Four Major Rivers Project by former President Lee Myung-Bak, because both are considered as worthless projects rapidly done without proper procedures only to leave legacies (Jo-Han, 2013). Such

comment is a snippet of how and why members of the university feel frustrated in the way the project proceeded.

The result of the project represents how the space of a corporatised university is being made up in Korea. As mentioned by another professor, its process can be identified with the one of the authoritarian developmental state (*Weekly Donga*, 2013). While the university promotes the project as space for ‘convergence, interaction, communication, and culture’, the project ended up without reflecting demands of students (*Hankook Ilbo*, 2015, *Yonsei Chunchu*, 2014, 2015). Once the head of the project team, who is a professor from the Department of Architecture and Architectural Engineering, mentioned during an interview that space for students was being considered (*Yonsei Chunchu*, 2012):

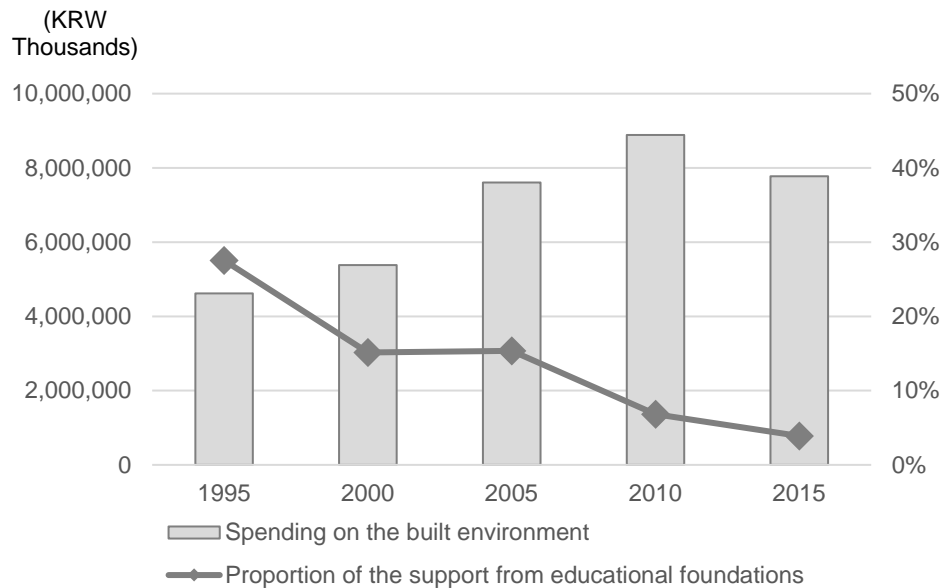
Facilities needed for students and facilities showing the superiority of the university to visitors will be constructed. The university office surveyed students about what students want in last June. As a result, study space was the first priority, and amenities were the second (Interview by *Yonsei Chunchu* in September 2012).

In the end, however, there was space not for students, but for profit, including conference facilities and a restaurant as well as franchise stores like Starbucks, while 77 per cent of the entire space is given to parking spaces (*Yonsei Chunchu*, 2013, 2015). Overall, the ‘Baekyangro Recreation’ project is a case showing how the self-driven politics of a Korean university reflect commercial interests while neglecting the interests of other members.

Private universities’ real estate businesses

Private universities in Korea are inherently asset-based institutions as investigated in the previous chapters and continue to invest in the built environment even though their enrolment quotas have been stagnant since 2000, as shown in Figure 6-1 above. As can be seen from Figure 6-5, the spending of private universities on their built environments such as purchasing land and constructing buildings kept increasing until 2010. In 2010, each private university invested an average of KRW 8.9 billion in its built environment, totalling KRW 1.4 trillion. This was more than twice the cost of university spending for research during the same year.

Figure 6-5 Average annual spending on the construction activities of a private university in South Korea (1995–2015)



Source: Kim (2013); Korea Foundation for the Promotion of Private (& Public) School (2015); Park (2007).

Even though private universities' spending on real estate-related activities has grown, the contribution from the educational foundations of private universities has remained minimal. In 2015, the foundations only contributed 3.9 per cent of the total costs. This low contribution of the foundations means that students' tuition has been used in these real estate-related activities. The foundations have a legal obligation to support the operation of universities through profitable businesses. However, in this aspect, the profitable businesses of the foundations are not sufficiently supporting the real estate-related activities of universities.

The state considered that the asset-based nature of private universities was beneficial to lessen the state's fiscal burden to support the higher education sector. Private universities can only be established through non-profit incorporated foundations, but their profitable activities have been allowed by the state to support the operation of universities. By introducing the minimum asset requirement in 1976, it was also expected that the state could control the establishment of new private universities by creating an entry barrier and guarantee private universities to fund their operations themselves, thus minimising the support of the state. Table 6-3 shows how the minimum asset requirements for private universities with 10,000 students have

Table 6-3 The average minimum asset requirements for a private university in South Korea with 10,000 students (in KRW millions)

Period	1976-1996	1996-2005	2005-2015	2015-Current
Estimated average requirement	34,363 ¹⁾	45,192 ²⁾		
Absolute minimum for a new university	2,000 ³⁾	No Minimum	10,000 ⁴⁾	30,000 ⁴⁾

Source: Author estimated based on Korean Ministry of Education (2014a) and Song (2014).

Note: 1) Based on 1996; 2) Based on 2015; 3) Calculated based on the number of students; 4) Regardless its size.

changed over time.

The minimum asset requirements are calculated in two ways. There are the absolute minimum requirements for all universities: these are calculated based on the estimated operating costs prior to 1996 and then changed to an operating revenue basis. The minimum asset requirement was abolished in 1996 as the regulations for the establishment of private universities were relaxed, as investigated in the previous section. However, when the intervention approach was reintroduced in 2005, the minimum requirement was introduced again and was gradually increased through the Provisions for the Establishment and Operation of Universities, which aimed to make it difficult to establish a new university.

The asset-based nature of private universities is not only related to state control but also to preserving the assets of founders. As discussed earlier, the character of the private university as a land-based institution is related to its historical background. Large landowners at the time donated their land for protecting their assets when the land reform process was conducted after the liberalisation of Korea in 1945. After then, private universities have kept large amounts of land. In 1996, the total area of land for profit owned by private universities in Korea reached 19,857 ha. Private universities had an average of 158.9 hectares of land at the time. The total value of land was KRW 835 billion, accounting for 53.5 per cent of the total profitable assets of private universities. Also, considering the buildings, which occupied 19.9

Table 6-4 Value and revenue of profitable assets of all private universities in South Korea
(in millions of KRW)

Year	1996		2015	
Category	Value	Revenue	Value	Revenue
Land	834,939 (53.5%)	12,909 (4.4%)	5,547,483 (62.2%)	58,919 (21.0%)
Buildings	310,408 (19.9%)	161,380 (55.3%)	1,908,996 (21.4%)	182,150 (65.0%)
Stocks and bonds	138,989 (8.9%)	5,063 (1.7%)	627,296 (7.0%)	5,199 (1.9%)
Savings and deposit	247,658 (15.9%)	22,214 (7.6%)	836,276 (9.4%)	32,166 (11.5%)
Other	28,029 (1.8%)	90,398 (31.0%)	5,541 (0.1%)	1,872 (0.7%)
Total	1,560,023 (100%)	219,964 (100%)	8,925,592 (100%)	280,306 (100%)

Source: Park (1999); Korea Foundation for the Promotion of Private (& Public) School (2015).

per cent of total private university assets, 73.4 per cent of them were associated with real estate. As Table 6-4 shows, in 2015, land and buildings accounted for 62.2 per cent and 21.4 per cent of total profitable assets owned by private universities, respectively. In terms of revenues, land and buildings also accounted for a major portion of total revenues. This trend has intensified even more, accounting for 59.6 per cent of revenues in 1996, up to 86.0 per cent in 2015. In this respect, the tendency to rely on real estate has continued until now.

The nature of the private university as an asset-based institution becomes even more apparent when investigating the profit from land: the university holds land for its own sake, since the operating costs are mostly covered by student tuition. For example, in 1996, the revenue from the land for profit was only KRW 12.9 billion, which is calculated as a yield of 1.5 per cent. This accounts for only 4.4 per cent of the total revenue generated from the profitable assets of private universities in the same year. Educational foundations of private universities are legally obliged to cover the operating expenses of their universities by using 80 per cent of their profits earned from assets, excluding the operating expenses of the foundations. In 1996, the total profit from all profitable assets amounted to KRW 59,707 million, and the foundations

Table 6-5 Changes in profitable land and buildings of private universities in South Korea

Category		1996	2015	Increase
Land	Size (ha)	19,857.2	21,337.7	1480.5 (7.5%)
	Net worth (KRW Billion)	834.9	5,547.5	4712.6 (564.5%)
	Revenue (KRW Billion)	12.9	58.9	46.0 (356.6%)
	Profit rate	1.5%	1.1%	-0.4%
Buildings	Size (km ²)	1.3	2.2	0.9 (69.2%)
	Net worth (KRW Billion)	310.4	1,909.0	1598.6 (515.0%)
	Revenue (KRW Billion)	161.4	182.2	20.8 (12.9%)
	Profit rate	52.0%	9.5%	-42.5%

Source: Park (1999); Korea Foundation for the Promotion of Private (& Public) School (2015).

were obliged to provide KRW 47,766 million, 80 per cent of the total profit, to operate their universities. This amount was only 1.4 per cent of the operating costs of all private universities in 1996. While the average official appraised value of land in Korea increased 1.4 times from 1996 to 2015, the average value of private university land increased 6.2 times over the same period as shown in Table 6-5, which means that private universities have been successful in enhancing the value of their land. However, despite the rapid increase of their value, the profit rate and its contribution to the operation of universities is relatively insignificant. In 2015, the total profits from assets still only covered 1.8 per cent of the total operating costs. In this regard, the profitable asset scheme can be considered as being merely nominal from its beginning.

Yonsei University's endowment fund as a model

In terms of its endowment fund, Yonsei University is also very much seen as an asset-based institution. In 2015, Yonsei University had the second largest amount of profitable assets of KRW 578.8 billion, following Konkuk University. The size of land for profit owned by the university in 2015 was 191.4 ha, and its value was KRW 386.7 billion, which accounted for 66.8 per cent of the overall for profit assets held by Yonsei University (KM Park, 2016). The share of land among the total assets is similar to the average of all private universities of 62.2

Figure 6-6 View of Yonsei Severance Building



Source: Author taken in October 2017

per cent, but the rate of return to asset value in 2013 was 0.0 per cent (Jeong, 2014). In addition, the Education Foundation of Yonsei University holds 723.9 hectares of land that is used neither for profitable activities nor for educational purposes (KM Park, 2016). Despite its ample resources but low profit rate, the foundation spent on average KRW 4.1 billion between 2013 to 2015 for profitable businesses in relation to real estate instead of utilising existing resources (Education Foundation of Yonsei University, 2015, 2016). When considering these points, the nature of Yonsei University as an asset-based institution becomes more evident.

The Education Foundation of Yonsei University owns and operates several buildings for its profit. Table 6-6 shows a different kind of businesses owned by the foundation. According to the table, the major profits of the university-owned profitable businesses come from the property-related businesses, which accounted for 71.2 per cent of the total profit transferred to

Table 6-6 Profit transferred to Yonsei University from its profitable businesses in 2016

Category	Name of business	Profit transferred to the university	
		Amount (in millions of KRW)	Proportion
Commercial real estate lease	Severance Building	20,000	48.7%
	Bong Rae Building	3,530	
	Myung Il Building	320	
	Dae Shin Building	160	
	Other minor leases	240	
Venue hiring	Yonsei University Sinchon Funeral Home	8,300	22.5%
	Yonsei University Gangnam Funeral Home	1,000	
	Yonsei University Wonju Funeral Home	900	
	Alumni Association Building	1,020	
Medical Supplies	Yonsei Medical Supplies	10,200	20.5%
Milk processing	Yonsei Milk	4,410	8.3%
Total		49,810	100%

Source: Education Foundation of Yonsei University (2017).

the university from the foundation for supporting its operation cost in the financial year 2016/17 (Education Foundation of Yonsei University, 2017). The annual profit of the Severance Building (see Figure 6-6) alone was KRW 20 billion (ibid.). Even though Yonsei University is known to be successfully operating other product-based businesses such as milk processing and medical supplies businesses than other private universities, property-related income is a significant part of the total profit (*Korea Economic Magazine*, 2014).

6.2. Globalising Singapore and new universities

In this section, the transformation of the higher education sector and the university in the emerging urbanisation process of Singapore will be discussed. The first subsection focuses on the process of introducing globalisation strategy to the higher education sector, focusing on the Global Schoolhouse initiative. The second subsection, then, investigates various emerging urban drivers that affected the university. How and why new universities have been established and how their campuses were made will be examined as well as the emergence of university endowment funds. The last subsection investigates the case of the NUS. The physical expansion of the university and the investment activity of its endowment fund will be analysed.

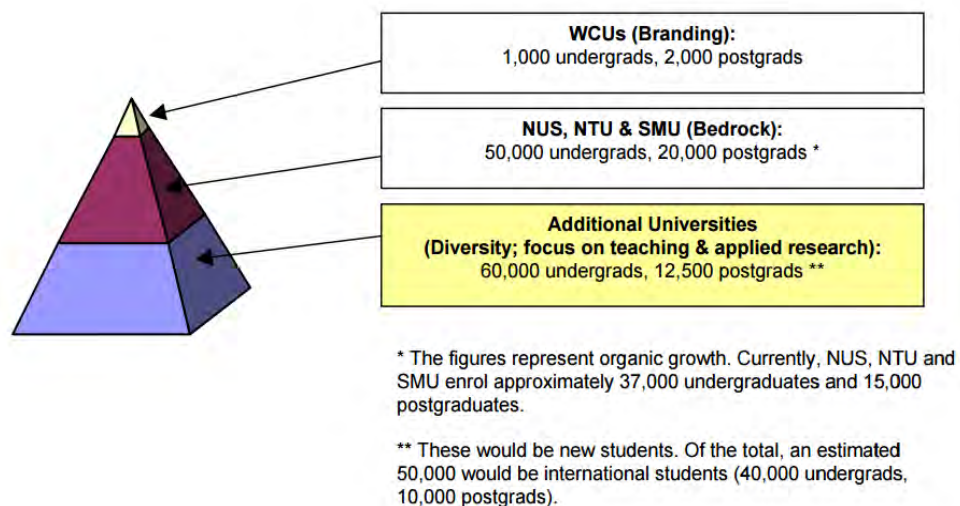
6.2.1. Globalising the higher education sector and the birth of entrepreneurial universities in Singapore

New kinds of higher education reform policies have been introduced in Singapore since the late 1990s. Such reform policies are mainly focused on globalising the higher education sector and promoting the knowledge-based economy for the country (Mok, 2008; Mok and Lee, 2003; Sidhu et al., 2011). The state, led by then Prime Minister Goh Chok Tong, drafted several agendas such as ‘Thinking Schools, Learning Nation’ in 1997 and ‘Singapore 21: Together, We Make the Difference’ in 1999. The EDB materialised and implemented such a strategy through several initiatives, including the World Class University (WCU) programme launched in 1998 and the Global Schoolhouse initiative launched in 2002. Through these initiatives, the state firstly attempted to attract foreign elite universities and foreign students to Singapore. Secondly, the state also aimed to increase the entrance ratio of Singapore students to public universities and improve the quality of these universities. Lastly, the establishment of private universities and branch campuses of foreign universities was promoted in Singapore to diversify the higher education sector. This three-level university system is well illustrated in the diagram drafted by the Economic Review Committee shown in Figure 6-7.

The Global Schoolhouse initiative as a flagship higher education policy

The Global Schoolhouse initiative is particularly important for understanding the shift of the higher education sector in Singapore. It implies that the higher education in Singapore has become an industry to contribute directly to the national economy as part of the service sector, beyond its traditional role of supporting its economic growth by nurturing the necessary talents. The core idea of this ambitious initiative was to attract foreign students to Singapore. This idea was proposed in 2002 by the Economic Review Committee under MTI (Economic Review Committee 2002). Then, it was officially announced in August 2003 by George Yeo, the Minister for Trade and Industry. The ambitious initiative aimed to attract 100,000 or 150,000 full-fee paying international students by 2015 (Yeo, 2003). By doing so, the state intended to increase the education sector's share of the overall GDP from 3.6 to 5 per cent in a decade (Yeo, 2003). While the government already attracted INSEAD and the University of Chicago Graduate School of Business to open their branch campuses in 2000, several foreign universities were invited to open their branch campuses or operate joint programmes with local universities through the WCU Programme. Overall, the state aimed to transform Singapore into the 'Boston of the East', a global hub of education, by operating a wide ranging of universities (Teo, 2000).

Figure 6-7 The scenario for the university sector in Singapore, with possible student enrolment figures in 10–15 years' time



Source: Economic Review Committee (2002: 6).

Considering the situation, at a time when there were 50,000 foreign-national students in Singapore and only 1.8 million students from around the world were studying at foreign universities in 2003, the target of the Global Schoolhouse initiative to attract 150,000 foreign students was rather ambitious (Economic Review Committee 2002). Based on a Q&A session in Parliament about the initiative, the Ministry announced that 84,000 foreign students were studying in Singapore as of July 2012, and that 68 per cent of them were university students (Singapore Ministry of Trade and Industry, 2012). The education sector's contribution to GDP was 3.2 per cent at the time, which was even lower than the 2003 figure (ibid.). Even though the number of students increased 1.7 times over a decade, the initiative failed to meet the overall target.

The aim to attract 150,000 foreign students was eventually abandoned especially because of the opposition from Singaporean citizens to foreign students. As already pointed out by Ng and Tan (2010), Singaporeans were worried that foreigners would take the places of locals in local universities. The PAP winning the lowest percentage of votes in its history in the 2011 general election was also considered to be related to these concerns (Waring, 2014). As a consequence, while the state gradually reduced the growth of foreign skilled workers, the state also promised to limit the number of foreign students entering local universities (Lee, 2011; *Straits Times*, 2015a). My interview with a higher rank university manager conducted for this research also confirms such a shift of the initiative by mentioning:

Well, you have to understand politics of the last five years in Singapore. So, prior to that, there was a very aggressive push led by EDB for the Global Schoolhouse. But [in] the 2011 general election... there was a huge push back by Singaporeans [against] the large influx of foreigners into the country. And... as a consequence, there was a shift in policy. So, prior to 2011, universities could have 20 per cent of the undergraduate population made up of international students. Now is about 10 per cent. And we are just talking about five years ago and now. (ST2-EDU-INT-01, 2016)

This issue had already been discussed in the report by the Economic Review Committee in 2002. It questioned whether Singapore could attract 100,000 foreign students without any adverse social issues. The answer of the committee at the time was a 'yes':

Our sense is that Singapore is already a cosmopolitan and open society, and these students should be able to assimilate into Singapore society, be it for the duration of their studies or, on a selective basis for the talented students, staying on to work upon graduation. (Economic Review Committee, 2002: 12)

However, unlike their positive expectations, the higher education was a complicated issue, and the state decided to abandon the initiative. The rise and fall of the Global Schoolhouse initiative shows the peculiarity of the higher education sector in Singapore. Social issues often override the drive for economic growth that the developmental state has always prioritised. The state has had the power to control the higher education sector, but it does not mean that the power could be used at will.

Domestic university reform for promoting ‘corporatisation’

The restructuring of domestic universities was also carried out as part of the reform to enhance the global competitiveness of the higher education sector. Since Goh Chok Tong announced the vision of Singapore to be the ‘Boston of the East’ in 1996, the state attempted to transform two local universities, NUS and NTU, into world-class ones (*Straits Times*, 1996c). The reform was once again led by Tony Tan, the founding Vice-Chancellor of the National University of Singapore and Deputy Prime Minister at the time. The action plan prepared by him includes increasing the university entrance quotas of both local and international students and strengthening R&D capacity (*Straits Times*, 1997a).

The International Academic Advisory Panel (IAAP) supported such reforms (Lee and Gopinathan, 2003a). The Panel, comprised mostly of heads of elite universities abroad such as the Provost of the Massachusetts Institute of Technology and the President of Johns Hopkins University in the US as well as the President of Peking University in China, was formed in 1997 and had meetings biannually to provide advice for the government (NUS, 2005b). The Panel proposed NUS to be a multi-campus university system and NTU to be a comprehensive university covering diverse kinds of academic disciplines in their meeting held in January 2003 (Singapore Ministry of Education, 2003).

The reform of local universities has also been implicated in the public sector reform process that has been implemented by various government committees since the late 1990s. Since then, the public sector in Singapore went through a wider market-oriented reform process represented by the 'Public Service for the 21st Century' (PS21) initiative (Haque, 2009). This pragmatic initiative aimed to enhance the capacity, quality and efficiency of public service institutions by granting more autonomy to the public sector by transforming them as autonomous agencies (Lee and Gopinathan, 2003b; Singapore Ministry of Finance, 1997). To do so, the state privatised or corporatised several government departments and statutory boards, including the Public Works Department (PWD), the Jurong Town Corporation (JTC), the Building & Development Division (BDD) of the Housing & Development Board (HDB), Land the Transport Authority (LTA) and the Port of Singapore Authority (PSA), which have played key roles in supporting the rapid urban development process in Singapore. Through this reform process, these government subsidiaries have been granted more managerial autonomy and operational flexibility while public-private partnerships have been promoted actively (Haque, 2014).

The higher education sector was not an exception. The wider public sector reform process has led to several changes in the way the university operates, including its corporatisation. The state set up the University Governance and Funding (UGF) Steering Committee in April 1999 to review the governance and funding structures of local universities to improve their global competitiveness (Singapore Ministry of Education, 2000). The committee consisted of government officials, including deputy secretaries from the Ministry of Education, the Ministry of Finance and Public Service Division,¹⁵ and university officials (ibid.). The committee aimed to grant local universities a higher level of autonomy including more responsive remuneration systems and budget planning, and some operational autonomy was

¹⁵ Public Service Division is a government agency under the Prime Minister's Office since 1994. The agency has led the PS21 initiative to reform the public sector in Singapore (Singapore National Library Board, 2014).

given based on the suggestions (Mok, 2005b, 2008; Singapore Ministry of Education, 2000). Such ideas were further developed by the University Autonomy, Governance and Funding (UAGF) Steering Committee set up in April 2004 (Singapore Ministry of Education, 2005). Based on the review conducted by the committee, both the NUS and the NTU were corporatised to become 'autonomous universities' in 2006. As pointed out by Mok (2008) and Ng and Tan (2010), the corporatisation of public universities does not mean that the state is no longer controlling the university, but public universities in Singapore now operate with far more autonomy and flexible funding structures by empowered university councils. This overall restructuring of the higher education sector since the mid-1990s has led to the assumption that the role of universities in urbanisation has also changed. These changes will be addressed in the following section.

6.2.2. The state's continuing attempts to mobilise universities for urbanisation

The major higher education reform strategies as consequences of the accelerated globalisation process and the emergence of the knowledge economy in Singapore have been introduced in the previous section. New types of higher education institutions have been established and operated in Singapore, ranging from foreign elite universities to domestic second-tier ones. This means that the way universities participate in the urbanisation process has also diversified. In this regard, this section will investigate the emerging urbanisation process in relation to the changing higher education sector in Singapore, in three parts. Firstly, how the campuses of the newly established local universities such as Singapore Management University have been planned and implemented will be examined. Secondly, how the universities have been utilised with other state-led urban development projects by the state will be explored. Finally, how existing local universities participate in the urbanisation process differently from the previous era will be examined.

New local universities and the birth of Singapore Management University as the first urban university

The opportunity for Singaporean students to enter local universities was considered as highly competitive and restricted. The gross enrolment ratio in tertiary education in 1995 was 38.6 per cent (Singapore Ministry of Education, 2017). The ratio was lower than the ratio of Korea (52 per cent) and the average ratio of high-income countries based on the World Bank classification (58 per cent) (World Bank, 2000). The figure of Singapore includes other polytechnics and technical education institutions, which means that the actual opportunity of students to enter public-funded local universities was highly limited. In 1995, only 9,074 students were accepted into two local universities in Singapore. That figure was 19 per cent of those who entered primary school in 1985 (Lee, 2002). As a result, a substantial number of students had to choose to study abroad for obtaining their degrees. There is no official figure published by the government regularly, but one newspaper article from the *Straits Times* estimated that around 5,000 students chose to pursue undergraduate degrees abroad annually, which is close to half the local university entrance quota of Singapore (*Straits Times*, 1999a). The discontent of society due to the lack of university entrance quota cannot be overlooked, as confirmed by an interview with a high-ranking university manager:

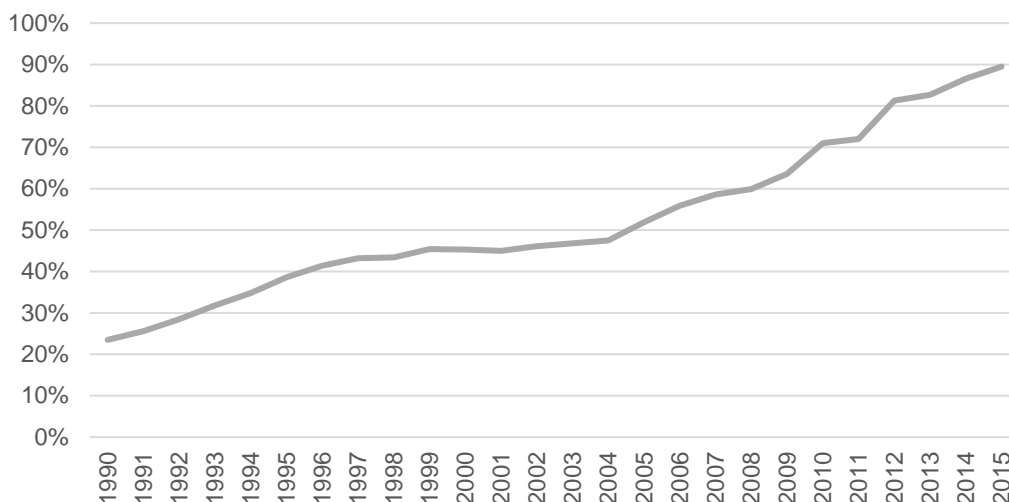
[...] There is a lot of political pressure on the government to provide these places in local universities, because otherwise, students will have to spend a lot more money going overseas for their university education. So, of course, parents and young voters are putting pressure on the government. So partly because of expansion in the birth cohort participating in higher education, the enrolment in university has grown. (ST2-EDU-INT-01, 2016)

Until the mid-1990s, the government's willingness to expand universities was lacking, but it did not last long. Increasing demand for higher education has led to the establishment of universities in Singapore since 2000. During the 1996 Budget Debate, the Education Minister made a statement that the higher education institutions were offering enough places for students (*Straits Times*, 1996a). One director from the Ministry of Education supported such idea in a letter to the *Straits Times* by arguing that:

Since there are fewer students qualifying for NUS and NTU than there are places available, no Singaporeans are deprived of university places because of the admission of foreign students. (Goh, 1997: 64)

However, Tony Tan, the Deputy Prime Minister, announced a plan to establish the third university in Singapore by developing the Singapore Institute of Management in January 1997, which led to the establishment of Singapore Management University in 2000 (*Straits Times*, 1997a). Shortly thereafter, in 2001, the fourth university proposal was made by the IAAP (Singapore Ministry of Education, 2001). Again, the government initially rejected the idea of the fourth university in 2003. Ng Eng Hen, the Minister of State for Education and Manpower, mentioned that ‘there is neither need nor any advantage to be derived in creating a fourth university’ (*Straits Times*, 2003: 1). Nonetheless, in the end, the fourth university, Singapore University of Technology and Design, was opened in 2009. Following it, the fifth university, Singapore Institute of Technology, was established in 2014, then UniSIM has become the sixth university, Singapore University of Social Sciences, in 2017. Currently, the government aims to increase the university cohort participation rate to 40 per cent by 2020, which is twice as much as two decades ago (Singapore Ministry of Education, 2012). Local universities have grown rapidly in Singapore over the past two decades (see Figure 6-8).

Figure 6-8 Gross enrolment ratio for tertiary education in Singapore (1990–2015)

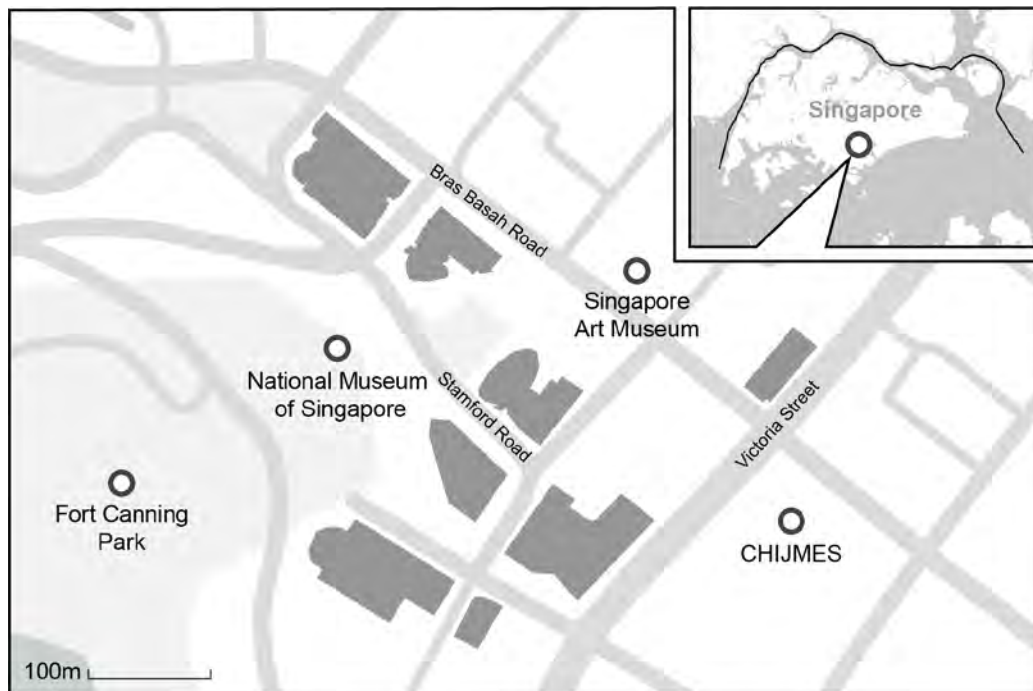


Source: Singapore Ministry of Education (2017).

Note: This figure includes students from other types of tertiary education institutes in Singapore, such as polytechnics.

The campus of Singapore Management University (hereafter SMU) is a prime example showing how the concept of a university campus is different from previous eras. The business education-centred university, which is privately operated but funded by the government, opened its new urban campus on 7.76 hectares land in Bras Basah, the civic and cultural district of Singapore, in August 2005 after five years of operation on two temporary sites in Bukit Timah. As shown in Figure 6-9, the new campus of the university is centrally located, which is distinct from the campuses of NUS and NTU. Since the campus is located in the city centre, the university does not have greens and quadrangles as well as residential facilities, which is also distinct from other existing universities. Instead, the university buildings, as well as Bras Basah MRT Station, were designed to be connected underground. The campus needed to be carefully planned and implemented since the buildings of the university will be surrounded by several historically significant buildings such as the National Museum of Singapore and the Singapore Art Museum.

Figure 6-9 The buildings of SMU in Bras Basah



Source: Author's depiction.

The core idea when the state established SMU was to make a different university from the existing ones, and this affected how the campus was planned and implemented. This idea is repeatedly found in various documents. For example, in an oral history project conducted by SMU, Tony Tan (2011) recalled:

For the site of the permanent campus again, I felt that as far as possible it should be different from NUS and NTU which are located in basically the outskirts of Singapore, in the suburbs – NUS in Kent Ridge and NTU up in Jurong – and if it's going to be a business university, then ideally that it should be located within the city. That took a lot of discussion within the Cabinet because any place within the city will result in the use of extremely valuable land, from a commercial point of view, for educational purposes. But ... I'm happy that the Cabinet agreed to the proposal to establish a city university within here in Bras Basah Road, different from NUS and NTU with a different constitution, with a different structure, and in partnership with the Wharton school. (Deputy Prime Minister of Singapore Tony Tan, 2011)

As the person who led the process to establish SMU, his interview tells much about how the idea of SMU was formed. There was a consensus that the campus should be located in the city centre, and that the campus had to be different from other existing universities.

The site selection of the university proceeded quickly, but the campus planning process did not proceed smoothly. In 1998, several sites were proposed to the university for its new campus such as Marina South, Beach Road and Bras Basah. After less than a year of searching for the site, on 5 December 1998, Tony Tan announced that the SMU's campus will be located in Bras Basah. Figure 6-10 shows the site of SMU in the 1980s. The area was a largely open space called Bras Basah Park with few underutilised land parcels owned by the government, but the decision immediately provoked an unexpected backlash from members of public mainly due to the planned demolition of the old National Library building built in 1960 (Bellace, 2010; ST3-SGU-INT-01, 2016). The opposition to the demolition was mainly due to people's sentiments and memories of the building (Kwok et al., 2000). In fact, the library had already planned to be demolished due to the new Fort Canning Tunnel built for catering to increasing traffic that would be attracted by future developments in Marina Centre (ST3-SGU-INT-01, 2016; URA, 1997). The remaining library site was planned to be used as part of a new

Figure 6-10 Bras Basah Park in the 1980s



Source: URA (1988).

Figure 6-11 Alternative SMU campus proposal by Tay Kheng Soon



Source: Image courtesy of Tay Kheng Soon (2000).

SMU campus. The Museum Planning Area Planning Report published by URA in March 1997 already included the proposal to build the tunnel even though the report did not mention the library itself and its demolition plan at all (URA, 1997). However, members of public were concerned that the demolition was directly linked to the new SMU campus (Bellace, 2010; ST3-SGU-INT-01, 2016). Even a renowned architect, Tay Kheng Soon, deepened the controversy by announcing an alternative proposal of the new SMU campus with an idea of preserving the existing green space and old National Library building as shown in Figure 6-11 (Tay, 2000). The former SMU Campus Planning Director recalled in an interview that the new SMU campus might be the most controversial project in Singapore's history (ST3-SGU-INT-01, 2016). Such comment implies that there were several obstacles to carry out the project.

Such public dispute had to be dealt with carefully. This was particularly because SMU was considered as a private university by members of public. even though the government planned and supported the university. Such feeling of citizens was well-revealed in a letter to the *Strait Times* as follows:

I agree that there is a need for our National Library to expand to meet the needs of Singaporeans in the future. But does that necessarily have to mean the abandonment and sale of the existing building to a private enterprise? (A reader of the *Straits Times*, 1998)

Ho Kwon Ping, who was 'engineered' by the government to become Chairman of SMU, wanted to conduct the campus development project in a more democratic way and to spend some time to dealing with the opposition (Tan, 2015; ST3-SGU-INT-01, 2016). As a result, the university conducted a year-long consultation process with various groups including members of the public, then URA approved the master plan in February 2000 (SMU, 2016). This consultation process of the new SMU campus is summarised in Table 6-7.

Due to this process, the new campus project was delayed almost one year (ST3-SGU-INT-01, 2016). As Chua (2005) argued, the dispute over the demolition of the old National Library and the related planning process of SMU is one of the important cases showing how the state

Table 6-7 Major SMU campus development consultation process

Dates	Events
5 December 1999	Public announcement of the SMU campus site
13 March 1999	Public symposium on the physical development of the SMU city campus
16 April 1999	Launch of the public ideas competition on the physical development of SMU
24 May 1999	Round-table discussions with non-business stakeholders
25 May 1999	Round-table discussion with architects on urban design
28 May 1999	Round-table discussion with business stakeholders
16 June 1999	Round-table discussion with religious groups
23 February 2000	Presentation of master plan to the URA and LTA
17 March 2000	Public forum organised by the Singapore Heritage Society
31 March 2000	Public announcement of the SMU master plan

Source: Kwok et al. (2000); SMU (2016).

became more responsive to public demands even though this does not necessarily mean that the state is sharing its power with civil societies.

Knowledge-led urban development and mobilisation of universities

NUS campus also has expanded its campus rapidly since the 1990s. In particular, since 2000, such a trend is more visible, as shown in Table 6-8. The major development project is University Town, which is located northwest of the Kent Ridge campus. This new flagship educational complex built on a 19-hectare piece of land opened in 2013 will be closely investigated in the next chapter. One of the new characteristics of the built environment of NUS is land use intensification. Such trend is mainly observed in University Town and the School of Medicine. While the current floor area ratio of Kent Ridge campus is 0.79, the ratio of University Town is 1.53, almost double density. As shown in Figure 6-12, the new high-rise buildings, including Yong Loo Lin School of Medicine (MD6) and Tahir Foundation Building (MD1), are well visible from a distance. Such a change is closely related to the lands

Table 6-8 The increase of the land and gross floor area of NUS

Year		2002	2016	Increase
Land (hectare)	Overall	146	166	20 (+13.8%)
Total gross floor area (m ²)	Overall	860,000	1,472,900	612,900 (+71.3%)
	(of Kent Ridge Campus)	860,000	1,113,000	253,000 (+29.4%)

Source: NUS OED (2002), NUS UCI (2016).

Figure 6-12 View of the west side of NUS Campus



Source: Author taken in March 2016.

Note: High-rise buildings on the left behind are National University Hospital, Yong Loo Lin School of Medicine (MD6), and Tahir Foundation Building (MD1) from the left respectively.

intensification policy of the government (ST3-NUS-INT-04, 2016; ST3-NUS-INN-03, 2016). The university also considered the use of underground space when the government actively promoted the concept of the underground city (ST3-NUS-INT-04, 2016). This trend shows that the university is still closely aligned with government concerns in relation to its urban development strategy.

One of the most important agendas of the Singaporean government since the late 1990s has been the promotion of the knowledge-based economy and globalisation. Such a shift has resulted in new forms of state-led urban development projects (Wong and Bunnell, 2006).

Universities have also become an important part of the projects to create these new urban spaces, where various innovative activities are promoted. As mentioned briefly in the previous chapter, the development of one-north, a 200-hectare strategic development project in the southwest of Singapore, is a pioneering case. This was followed by the Singapore University of Design and Technology in Changi Business Park, the Singapore Institute of Technology in Punggol Creative Cluster, and NTU in the Jurong Innovation District (formerly known as 2 West). These large-scale urban development projects were considered as important parts of the national development strategy. For example, Jurong Innovation District was mentioned as a major urban and economic development project during the 2016 Budget Speech by Finance Minister Heng Swee Keat (Singapore Ministry of Finance, 2016). The current Prime Minister, Lee Hsien Loong mentioned the relocation of Singapore Institute of Technology to Punggol Creative Cluster during the National Day Rally in 2015 (Lee, 2015).

The state can utilise the university to conduct the new integrated urban development projects in two ways. Firstly, the state can develop the new area adjacent to a university. Jurong Innovative District project is considered as case of this. Secondly, the state can (re)locate a university in the development area as an anchor institution to accelerate the development process. Changi Business Park and Punggol Creative Cluster are such cases. In the case of one-north, both strategies can be applied. One-north is located right next to NUS and Singapore Science Park, and NTU and two foreign business schools, ESSEC and INSEAD were invited for the project. As mentioned by a senior planner from URA during an interview for this research, it is easier for the state to locate public universities in than to attract private businesses into new development areas (ST3-DEV-INT-03, 2016). Like the cases of ESSEC and INSEAD, foreign universities, which are attracted by the state, also need to be located under the state guidance since the opportunity to purchase or lease a large amount of land by a foreign private entity is limited in a land-scarce country like Singapore. In this regard, the state tends to mobilise universities to promote the new development projects to attract industries and talents (ST3-DEV-INT-02, 2016; ST3-DEV-INT-03, 2016).

These new development projects are largely led by JTC Corporation, the national developer of industrial infrastructure, working with other government agencies. JTC Corporation was established in June 1968 as Jurong Town Corporation under the Economic Development Board to develop industrial infrastructure and other supplementary facilities such as housing in Jurong and other industrial areas (Kan, 2015). In the early years, JTC focused on building factories for manufacturing, but as the economy advanced, JTC became increasingly focused on more research-based, capital-intensive and high-technology industries (Seetoh and Ong, 2008; Singapore National Library Board, 2010). The development of the Singapore Science Park in the 1980s is an early example of how JTC's role in economic development evolved, followed by one-north in the 2000s, which is a landmark project located next to NUS to promote Singapore as a hub for biotechnology, information technology and media. The main concept of one-north is 'work-live-play-learn', which means an integrated mixed-use development where creativity, innovation and entrepreneurship are promoted in a total environment (Seetoh and Ong 2008). Other development projects, such as Jurong Innovation District and Punggol Creative Cluster have also applied the concept of 'work-live-play-learn' as the main development concept. The physical proximity to NUS was one of the main reasons to locate one-north in Buona Vista area, as confirmed by a former senior principal planner of one-north (ST3-DEV-INT-02, 2016). Since then, higher education institutions have been regarded as a key anchor for other major urban development projects in Singapore.

Nevertheless, despite the active promotion of integrated development projects with universities, the state would face various difficulties in realising such plans as follows. Firstly, it is difficult to promote cooperation between government agencies as well as universities for a unified goal. For example, in the case of one-north, two foreign business schools have been attracted as mentioned above for the education function of the project by EDB, and NTU opened its alumni clubhouse and adult learning programmes in its new campus in one-north. The programmes of universities in one-north are largely irrelevant to its original vision of the project as an R&D hub for an innovation-based economy.

Secondly, the university culture in Singapore tends to be still exclusive, so that university campuses, as well as their faculty and students, do not easily integrate into new development projects. Such concerns were expressed during an interview of the planner of one-north:

I think one-north's initial failure is because they [one-north and NUS] are close to each other but not connected. We tried very hard to connect to NUS, but NUS was not interested. Because they are very... many university professors say, 'this is my academic programme'. It is not easy for NUS to change their academic programmes to suit ... industries. For example, the industry comes in April and says, 'I've got a big research project'. And NUS will say 'I cannot help you because my calendar year only starts in next January so you have to wait six months'. (ST3-DEV-INT-02, 2016)

Such discordance between industries and universities in Singapore Science Park has already been investigated by Phillips and Yeung (2003). As discussed by Ferretti and Parmentola (2015), there are several cases where NUS and industries in one-north have collaborated. However, there has been no compelling evidence showing that the university culture has shifted.

Lastly, changing the perception of the area is still difficult despite the presence of universities. Together with Singapore Science Park and NUS, the location of one-north was considered as successful in terms of marketing the image of the place as an R&D hub of Singapore. This is partly because of the already established image of the area, since NUS has been in the area for more than three decades, as well as Singapore Science Park. The area also has good access to other parts of Singapore. However, Jurong Industrial District and Punggol Creative Cluster do not have such advantages. These areas have been regarded as residential areas and as being isolated from the city centre. The former planner of one-north also showed such concerns during an interview:

People copy things, but they really need to understand if creative cluster can survive in Punggol. They just say that [the] new planner in charge of [it] says 'I want to do a creative cluster in Punggol', but if they don't have right connections, if they don't have right environment, it will not succeed.... You say that this is going to be Hollywood in Punggol. But... you know... industry doesn't accept [this] and people don't accept [this]. (ST3-DEV-INT-02, 2016)

The senior planner from URA also addressed similar issues such as the difficulty of promoting the new development areas due to the people's low recognition and the lack of the business community in the areas (ST3-DEV-INT-03, 2016).

University endowment funds and speculative real estate investments

The last part of this section, how the existing local universities participate in the urbanisation process differently from the previous era will be examined. As investigated earlier, the universities have been mobilised by the state to support state-led urban development projects. On the other hand, universities in Singapore have invested in real estate properties through their endowment funds since the late 1990s, and this investment activity of universities could affect the urban environment indirectly. Aggressive investment activities by university endowment funds are commonly found in the US. The market value of Harvard University was USD 36.4 billion in 2014, followed by 23.9 billion of Yale University and 21.5 billion of Stanford University (US National Center for Education Statistics, 2016). Yale's endowment has earned an 8.1 per cent from investments over the past decade (*YaleNews*, 2016). Their investment strategies have become more diverse, but real estate investments are considered to be an important pillar of them (Wolinsky, 2009). For example, Yale's endowment is investing 12.5 per cent of its value in real estate (*YaleNews*, 2016).

In Singapore, university endowment funds have operated in earnest since December 1996. The government set up a S\$500 million common university endowment fund shared by two local universities in 1991 to encourage universities' fundraising activities for diversifying the sources of higher education funding (Lee, 2002; Mok, 2003). The government asked two local universities to raise S\$250 million each within five years. Then, in December 1996, the endowment fund was separated for each university. The government offered a strong incentive to universities to take an active part in fundraising: The government pledged to match two to three dollars for every dollar the universities raised, which means that if the university raises S\$50 million, the government would give a maximum of S\$150 million to the endowment fund (Mok and Lee, 2003). The donors are also benefit by S\$2.5 of tax deductions for every

S\$1 donation (Appell, 2013). Such a strong commitment of the government led to the rapid expansion of the funds. The value of NUS Endowment Fund increased from S\$699 million in 1998 to S\$3.1 billion in 2015 (Lee, 2002; NUS, 2015). The SMU Endowment Fund also started from S\$50 million seed capital from the government, and its value had increased to S\$ 862.7 million in 2015 (SMU, 2015; Tan, 2000).

It is difficult to measure and locate the consequences of investment activities of university endowment funds, particularly in relation to the urbanisation process. This is because the endowment funds have been operated as like a private entity so that there is limited information available about their portfolios and investment strategies. Nevertheless, it can be argued that investment activities of endowment funds will affect the urbanisation process if the funds are invested in speculative real estate properties. NUS is investing 12.5 per cent of its funds in real assets such as real estate and commodities, which means that there is the possibility that some of their assets are speculative (Appell, 2013).

The NUS Endowment Fund is the largest university endowment fund in Asia, and its rapid growth was possible because it is a privileged organisation which is able to cooperate with other government-linked companies for their investment activities. The first known example is 16 Collyer Quay (formerly Hitachi Tower), a 37-story office building in the central business district of Singapore. NUS General Endowment Fund purchased a half of its stake in 1999, paying around S\$200 million (*Straits Times*, 2000a). Its buying partner, which owned the other half of the stake, was Pidemco Land (currently Capitaland), which was one of the government-linked companies focused on real estate development and investment activities. The building was sold to a fund linked to Goldman Sachs in 2008, which brought a gain of S\$110.1 million to each seller (*Business Times*, 2008a). Pidemco Land mentioned that the company 'had acquired the buildings with the intention of exploring a joint ownership with the right partners' when NUS was revealed as a stakeholder of the building (*Straits Times*, 2000a: 84). Run by a small team of 20 employees, the endowment fund tends to invest its assets together with other investors (ST3-NUS-INN-04, 2016). The case of 16 Collyer Quay

shows that the endowment fund has been able to enjoy the opportunity to invest in assets together with other government-linked companies as a right partner, as mentioned above.

The NUS Endowment Fund is not only investing in properties in Singapore but also elsewhere. It is difficult to locate properties or development projects the fund has invested, but one investment officer mentioned during an interview that the fund has invested in more-established property markets such as US, Japan, and Korea (ST3-NUS-INN-04, 2016). Such investment strategy can be often controversial, considering NUS's position as a public institution. According to NUS financial statement for the financial year 2014/15, Valparaiso Capital I Ltd became an associated company of NUS on 26 June 2014 (NUS, 2015). The principal activity of the company is investment holding in property companies. NUS has held 22 per cent of its stake since then. There is no detailed information about how the company has been operated and where the properties invested by the company are located. However, according to the official newspaper of the Government of the Cayman Islands, there was a merger of Valparaiso Capital V Ltd into Valparaiso Capital I Ltd on 26 June 2014, which is the same day when the company became an associated company of NUS (Cayman Islands Government, 2014: 827). This fact indicates that the merger between two companies has resulted in NUS holding the company's share exceeding 20 per cent so that the company should have been disclosed in the financial statements.

I tried to investigate more about the company, but the access to relevant information was restricted. According to the Cayman Islands Government General Registry, the office of Valparaiso Capital V Ltd was located at the address of Codan Trust Company, which is a trust providing administration of trusts in the Cayman Islands (Cayman Islands Government General Registry, 2016). This complex governance structure makes it difficult to trace further about the company. There is also a private equity company named Valparaiso Capital Partners based in Singapore. The company is now investing in a new purpose-built 37-story student accommodation in CBD of Brisbane, Australia and other similar properties (Loussikian, 2014; Marquette Properties, n.d.). The company website states educational endowments as one of

key investors of the company by mentioning that ‘tax-exempt endowments are delivered direct investment access to specific discretionary assets, in a manner that addresses comprehensive internal reporting, accounting, and legal compliance requirements’ (Valparaiso Capital Partners, 2012). A senior manager of the NUS Endowment Fund told me in an email that Valparaiso Capital Partners is ‘another entity’, and that he would soon change the name of Valparaiso Capital I Ltd to avoid further confusion (personal communication by e-mail. 9 September 2016). Despite his statement, surrounding circumstances make it possible to reasonably doubt the relationship between the university and Valparaiso Capital Partners. My further investigation could not proceed, but regardless of their relationship, the case of Valparaiso Capital I Ltd raises questions about whether it is appropriate for public universities to invest in the property market through tax havens such as the Cayman Islands. Such investment activities also can affect the urban environment to some extent. A detailed case study of a real estate development project related to the endowment fund will be conducted in the following chapter.

6.3. Comparative analysis of universities in Korea and Singapore in the postdevelopmental era

6.3.1. A more complex state-university relationship in the postdevelopmental state

The most visible change in the higher sector is that neoliberal policies have been introduced since the mid-1990s. The East Asian state took the initiative to implement such policies even before the 1997 Asian Financial Crisis, which was believed to be a core driver of the East Asian state reform. As argued by Hill et al. (2012), bureaucrats in East Asia selectively appropriated neoliberal approaches against the trends of globalisation and democratisation which were emerging from different scales. As a result, the higher education sector has been deregulated, and more autonomy has been given to universities. As shown above, the number of universities and students has increased in Korea and Singapore. The number of private universities in Korea has increased rapidly since the mid-1990s, and the regulation of them

has eased. Universities in Singapore are also now enjoying autonomy. Such changes of the East Asian developmental state and universities also imply that their relations and the ways they intervene in the urbanisation process are different from the previous era.

Due to the introduction of neoliberal higher education policies, the relationship between the state and the university becomes more complex and diverse. Chapter Five showed that the state was a dominant actor to determine the behaviour of universities even though there were other scalar actors until the early 1990s, but since the mid-1990s, as this chapter has shown, the university now more actively engages with actors from different scales. In the case of Korea, the deregulation and intervention by the state was conducted focusing on domestic concerns even though the reform pressure derived from external influences. For example, the USFK relocation in Korea is due to changes in US military security policy, but it was only dealt with by domestic actors. On the other hand, in the case of Singapore, the state has been actively engaged with international players to transform the higher education sector. Foreign professionals and universities have been invited to participate in reforming the sector and establish new universities. Such differences are related to the different characteristics of the past Korean and Singaporean regimes.

The introduction of neoliberal higher education policies was also carried out in a variegated way. Both governments also attempted to intervene the higher education sector, but their aspect and results of intervention are different. The case of the USFK relocation in Korea shows how different governments' interests have conflicted: local governments have tried to attract universities for their local economy. The Ministry of National Defence wants to sell as much of the land as possible to fund the relocation while the Ministry of Education does not want new universities and existing universities are moving into the capital region. Such different interests were difficult to coordinate, so actual changes have rarely happened. In Korea, the higher education institutions are excessive due to the existence of private universities, but in Singapore, citizens have been still demanding more opportunities for higher education. Thus, the government had to establish the fourth university, even though it initially

rejected the idea when foreign professionals proposed it. The active expansion of universities in Singapore can be related to ensuring the legitimacy of the state. The one-party rule in Singapore tends to be more sensitive to people's demands in order to continue their rule. In this respect, as argued above, the government established five new universities since 2000 and abolished the Global Schoolhouse initiative. The construction of a new university campus was also slowed down due for similar reasons. In Korea, on the other hand, the expansion of universities is being restrained again by the government, and the legitimacy of the state has been barely questioned in the opportunity for higher education. Such a difference is partly because the opportunities have been fulfilled by private universities in Korea, while they are still considered as the duty of the state in Singapore.

Regarding different scalar influences, it is noticeable that the influence of imperialism and geopolitics is still found in East Asia. As investigated in the previous chapters, the hegemony of the US and UK affected the higher education sector. The USAMGIK was the dominant force shaping the US-oriented higher education sector in Korea. Then, the strategic reform of the USFK initiated by the September 11 attacks also affected cities in Korea as well as the higher education sector, even though its ripple effect might be less visible than in previous periods. In the case of Singapore, we see that the withdrawal of British forces was highly influential on the economy and society of the country. Singapore then relied more on the US: the majority of IAAP members are professors in the US, while the Global Schoolhouse aimed to house several elite US universities such as the Massachusetts Institute of Technology and Johns Hopkins University, as investigated by Olds (2007). The NUS has also been transformed, adapting the US-based academic system. The transformation of NUS will be investigated in the following chapter. Overall, the subordination to the (neo)imperial power is still observed in Korea and Singapore.

To sum up, since the mid-1990s, the relationship between the state and universities has become more complex and diverse. While neoliberal higher education policies are visible in both Korea and Singapore, how they have been implemented and how they have affected

universities varies. Such findings coincide with the idea of actually existing neoliberalism by Brenner and Theodore (2002). While global-level influences are more visible than before, their colonial and postcolonial legacies are still influential in both countries while the developmental state still exists. Such a hybridity of the East Asian developmental state means that control and freedom coexist in the higher education sector, and this has made it difficult for the state to implement their policies. Various interests at different levels also affect this, especially in Korea, where the governance structure is more complicated. However, legitimacy has not been a major issue of the higher education policy of Korea since the mid-1990s, while it is still one of the concerns of the Singapore government.

6.3.2. The corporatised university and the real estate sector

The university has been utilised as a fixer of cities, regions, and countries. In the previous period, universities in Korea and Singapore were mostly mobilised for the physical development of cities and regions, as shown in the cases of the Capital Region Regulation in Korea and the withdrawal of the British forces in Singapore. Such an idea is still dominant in Korea. The state has tried to mobilise universities in Korea for regional development, focusing on universities' basic functions such as attracting people and consumption activities. However, in Singapore, the university is considered as an important anchor for promoting the knowledge-based economy: universities have been utilised as a testbed for new economic and urban development policies. NUS was a major anchor for one-north, a flagship state-led urban development project aiming for a high-tech and science hub, likewise NTU was an anchor for the Jurong Innovation District. The state is also relocating the Singapore Institute of Technology to the Punggol Creative Cluster for the success of the development project. Such cases show the various ways the state utilises universities even though they might be end up as real estate development projects, as argued by Felsenstein (1994).

The development direction is often the opposite of the previous era. The major example is the deregulation of the Capital Region Regulation resulting from the USFK relocation and other

attempts of universities to move into the capital region. The Korean developmental state attempted to suppress the expansion of universities in the capital region and locate universities in peripheral areas, but such dynamics have reversed as the cases show. In Singapore, the university was located in a secluded place with no proper public transport connections. However, the postdevelopmental state in Korea selectively induces universities to move into some parts of the capital region. In Singapore, the SMU, the first urban university in Singapore, opened its new urban campus in 2005. As mentioned by Tan (2011) above, the state aimed to differentiate the SMU from NUS and NTU by having its campus in the city centre. Like SUTD, some universities still built their campuses in peripheral areas. These diverse trends also represent the variety of the postdevelopmental state.

Other noticeable features include that the relationship between the university and the real estate sector is being strengthened. Their backgrounds are different: Korean private universities have been formed as asset-holding institutions from their inception and have operated their endowment funds for decades. This means that the growth of these endowment funds has played a limited role in funding university operation. In Singapore, the university endowment fund is a relatively new concept implemented since the late 1990s. Despite their different histories, in both countries, as an effort to diversify their income sources, the size of university endowment funds is increasing, and the funds have been invested in the real estate sector. The growth of funds was possible in Singapore due to strong governmental support. The government often provided three times as much funding as the original donation when the university successfully secured it. The university also has enjoyed opportunities to invest its fund together with other government-linked companies. As a result, the increasing investment income has contributed to university operation. Such a shift also can be understood as a process of financialisation. Universities are increasingly making profits from their investment activities.

Finally, the background in which corporate interests are found in universities is also different. Corporate interests have been found more apparently in universities in Korea and Singapore.

The physical space of the university has been expanded rapidly since the 1990s in both countries. The pace is faster than the increase of students and academic staff. The rapid increase of space can be related to the growing endowment funds. We see more buildings named by magnates in Singaporean universities. For example, in NUS, we see the construction of the Mochtar Riady Building, the Tahir Foundation Building, the Stephen Riady Centre, the Lee Kong Chian Natural History Museum, and so on, while such cases were rarely found in previous times. In Korea, we also see large conglomerates donate their money for new buildings in elite universities. In this regard, the coalition between the university and wealthy individuals and conglomerates has become more visible since the mid-1990s. This change in Singapore has occurred with the state reform since the mid-1990s. However, Korean elite universities have been operated as asset-based institutions, often seeking a coalition with *chaebol*. In this regard, it can be claimed that both look similar, but the drivers of corporate interests are different in both countries.

To wrap up, the built environment of the university has become a more important part of the university. The university is engaging with the built environment. In particular, the financialised universities are more actively engaged in the real estate sector by forming a coalition with the private sector. In Singapore, the emergence of flexible accumulation is more recognised in the process. The state is more and more considering the university as a primary site for knowledge and innovation production. Thus, we have seen several large-scale urban development projects closely linked to the university. In Korea, the state still uses physical aspects of the university to aim for more immediate and direct influence in local and regional economies. Such differences show that the relationship between the university and the state is diverging in Korea and Singapore, but in both cases, regardless of the impact of flexible accumulation, it appears that both governments have difficulty controlling the university and achieving their goals: universities were barely attracted to the USFK relocation affected areas. The outcomes of one-north, Jurong Innovation District, and Punggol Creative Cluster are also being questioned by academics and professionals.

Summary

This chapter first examined the emerging higher education policies since the mid-1990s and the evolving relationship between the state and the university. A clear set of neoliberal higher education policies has been found in both countries. Such policies complicate the relationship between the state and the university. While the state keeps trying to control the university, its results vary. There are more factors affecting this changing relationship: the influence of imperialism is different in Korea than before. The influence of foreign universities and academics has intensified in Singapore. While these changes surrounding universities in Korea and Singapore make it difficult to conceptualise the East Asian university, the university-property sector relation has been strengthened. The university is actively engaged in the urbanisation process both inside and outside its campus. The state is not only its collaborator. Government-linked companies and *chaebol* groups are also actively working with the university and their investment activities. This relationship tends to be much related to the built environment and the financialisation process. The elite universities have pursued their material interests using their inherited privileges.

Since the mid-1990s, the university has more actively participated in the urbanisation process, and the aspects have been diversified. It even takes place often in a way contrary to the previous period. Moreover, the university becomes a more independent institution to pursue physical development projects based on self-interest. Nevertheless, how the university actually negotiates with different actors to pursue development projects was not fully covered in this chapter. In this regard, the next chapter will investigate the more grounded processes of how Yonsei University and NUS have planned and conducted their flagship campus development projects and relevant property development projects.

Chapter 7: Entrepreneurial Universities in Action

7.1. Yonsei University and Songdo International City development

7.1.1. Songdo International City as a forgotten knowledge hub in Northeast Asia

7.1.2. Yonsei University Songdo Campus

7.2. Diversified Urban Processes by the NUS

7.2.2. UTown as the new university space

7.2.2. NUS as a real estate developer

7.3. Comparative Analysis of Yonsei University and NUS's Recent Development Projects

7.3.1. Whither entrepreneurial university in East Asia?

7.3.2. East Asian university in the process of financialisation

Greater autonomy will engender a more entrepreneurial spirit in the universities, so that they will lead the charge rather than waiting to take the cue from the Government. – Former Deputy Prime Minister Tony Tan (2004)

With autonomy, we will be empowered to move faster and reach further in realizing our vision of a global research university embracing an entrepreneurial dimension. – NUS President then Shih Choon Fong (2004)

The university should become an anchor institution to make the [Songdo International] city the hub of East Asia. – Yonsei University President then Jeong Chang-Young (Yonsei University, 2008: 2)

The emergence of the knowledge economy and the role of ‘entrepreneurial’ university are frequently referred to by the university administration in Korea and Singapore. Is such an idea actually reflected in physical expansion projects of the university? Based on the investigation of the emerging trends of the university in the urbanisation process in the previous chapter, this chapter will provide more grounded case studies of Yonsei University and NUS and relevant urban development projects. Based on my fieldwork findings, this chapter will answer the following questions: how does the university participation in Korea’s and Singapore’s urbanisation processes from the 1990s differ from the previous era, and what explains the difference?

For the Korea section, the development of Songdo International City and Yonsei University Songdo Campus will be investigated. For the Singapore section, two cases involving NUS will be investigated: NUS UTown as NUS’ largest campus expansion project since 1980 and Interlace Condominium, a 1040-unit private residential development project in which NUS was heavily involved.

7.1. Yonsei University and Songdo International City development

In this section, I will investigate the planning process of Songdo International City to understand how and why Yonsei University’s Songdo Campus has become an important

programme of this newly developed city. Then, I will further investigate the process of Yonsei University's conduct of its new campus project: how was the university able to develop its new campus only paying the cost of land? The case of Songdo Campus will cover two different aspects of a university-led urbanisation process: campus expansion and property development.

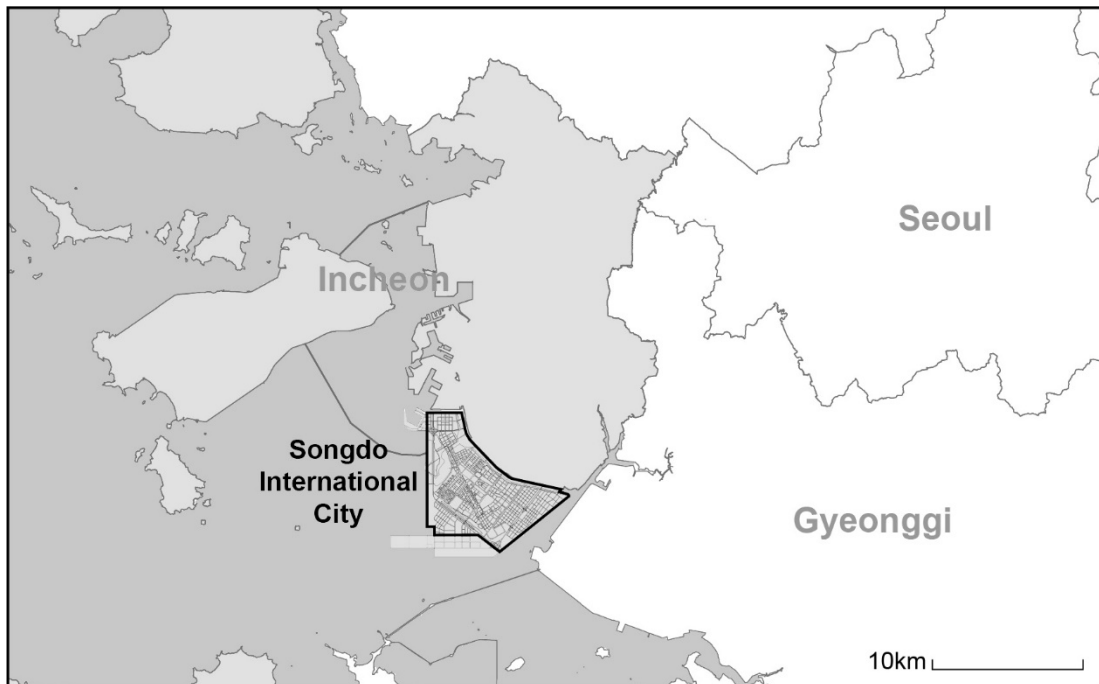
7.1.1. Songdo International City as a forgotten knowledge hub in Northeast Asia

Historical Backgrounds

Songdo International City, also known as New Songdo City, is a newly developed urban district built on a 5,345-hectare reclaimed land located in Incheon Metropolitan City, which is a part of capital region. The city is only an 18-minute drive from Incheon International Airport, the main airport of Korea and around 50 kilometres away from Seoul as Figure 7-1 shows. Songdo International City is also part of the Incheon Free Economic Zone, the first Free Economic Zone in Korea assigned in August 2003, with two other districts Cheongna International City and Yeongjong Sky City. There are several epithets to describe Songdo International City, such as 'Korea's high-tech utopia' (O'Connell, 2005), a 'city of the future' (CISCO, 2012) and the 'world's smartest city' (Lobo, 2014). Such popularity has led to a lot of academic attention. Despite the dramatic media coverage, several authors including Shin et al. (2015) and Shin (2017) suggest understanding the development process of Songdo International City based on the context of the historical urbanisation process of Korea. The rest of this section will investigate the historical developmental process of Songdo International City and how the university has been conceptualised in the process.

Songdo International City is not a new city built from scratch in the 2000s. The city has close ties with the developmental state's national territorial development strategy (Shin, 2017). Historically, Incheon has been developed through reclamation. Since 1883, when Incheon opened its port to the colonial powers, to 2009, 198.44 km² of seashore of Incheon has been

Figure 7-1 The location of Songdo International City



Source: Author made.

Figure 7-2 A panoramic view of Songdo International City



Source: Author taken in September 2015.

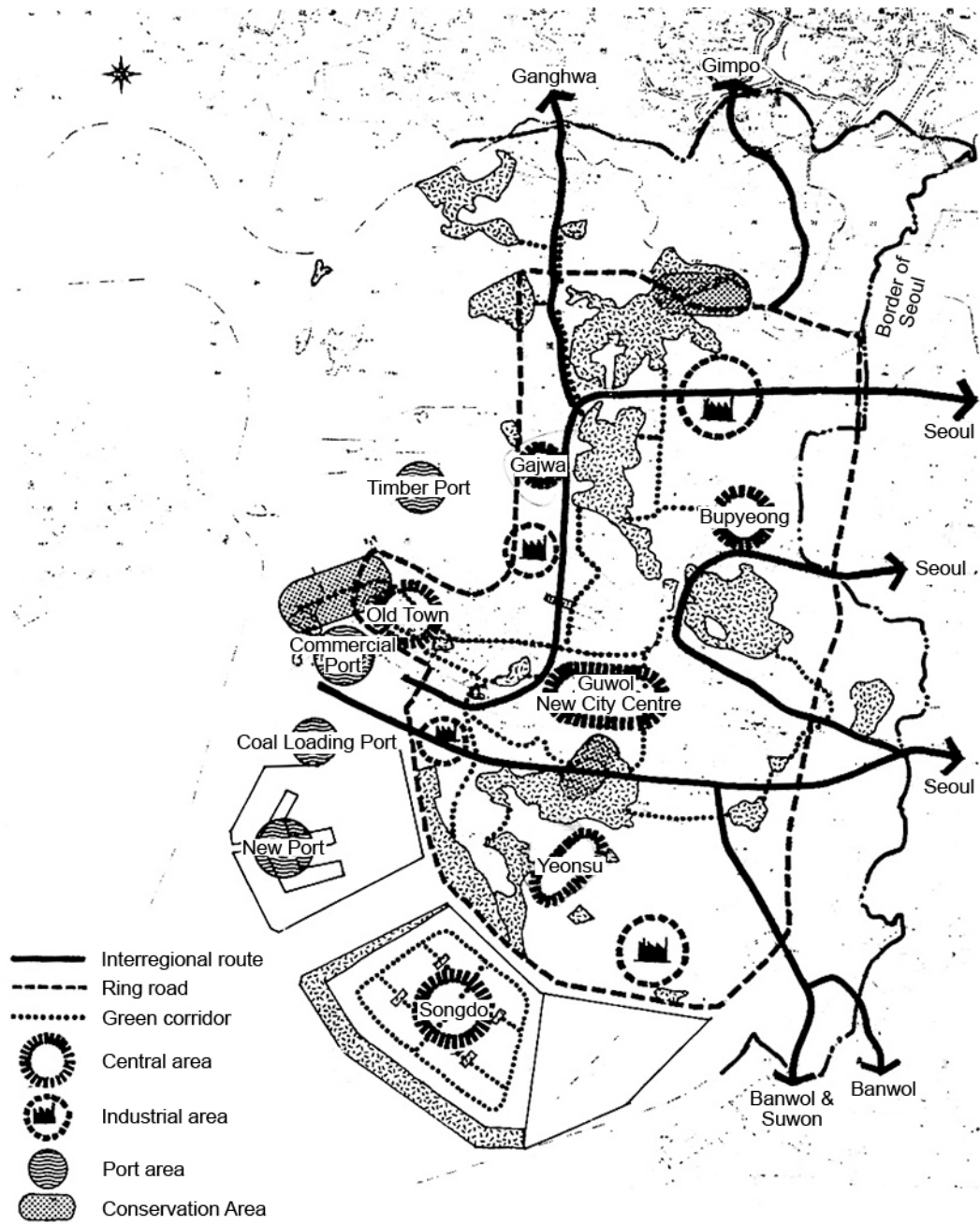
reclaimed, which accounts for 50 per cent of the inland area of the city (*Incheon Ilbo*, 2011).

The purposes and main participants of reclamation vary over time, but the new areas

commonly served the interests of the state. Under Japanese colonial rule, the colonial government reclaimed the coast for the provision of land for industrial and port facilities. Then, the newly reclaimed areas in the 50s and 60s were used for industrial development based on the first five-year economic development plan, and the ones in the 70s and 80s were for agriculture and port facilities (Incheon Development Institute, 2001). This reclamation strategy faced an interesting transition in the 1990s: 72 per cent of the newly reclaimed land in the 1990s, was planned for urban settlements (ibid.). Overall, the newly reclaimed land in Incheon has been used as capital accumulation strategies of the state by promoting its best use, and since the 1990s, the major accumulation strategy through reclamation in Incheon has been urban development projects.

The idea to reclaim the area where Songdo International city sits on was rooted in the Basic Plan for Public Waters Reclamation in Songdo in 1979 (ibid.). Then, the concept to develop the area as an international hub was initiated in the mid-1980s among local entrepreneurial bureaucrats. In the 1984 Basic Urban Plan, Songdo was already considered to be one of nuclei of the city, as shown in Figure 7-3 (Incheon Metropolitan City Government, 1984). Such an idea, however, could not get approval from the central government due to the strong discourse on Capital Region Regulation until Roh Tae-Woo was elected president in 1988. The reclamation plan of Songdo was approved in November 1990 by the Ministry of Construction. Then the first development plan was announced in 1992, but the project again was suspended by the central government due to concerns about concentration in the capital region. The reclamation work began only in September 1994 (*Maeil Business*, 1995). Such a process was largely led by Incheon Public Development Project Group. The Group was established within the Incheon Metropolitan Government in March 1989 to conduct housing land development projects and reclamation works (*Maeil Business*, 1989). It can be considered as a unique entrepreneurial action of the local government in Korea at the time.

Figure 7-3 Incheon's plan for functional distribution in the city in 1984



Source: Incheon Metropolitan City Government (1984).

As the master developer of the city, the Project Group enjoyed some benefits. For example, it used soil and stone from other development projects to reclaim Songdo without paying for it (KT3-DEV-INT-02, 2015; *Maeil Business*, 1994). However, the development of Songdo led by the local government difficult to proceed without the cooperation of several private entities since there was no strong support from the central government. This is particularly because

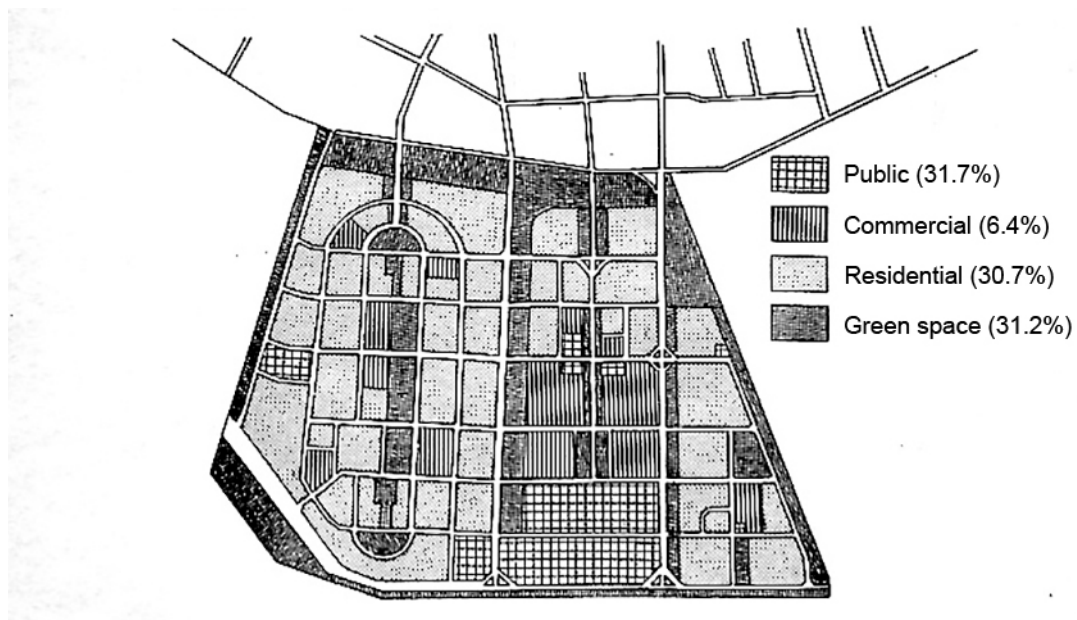
the local government did not have enough financial resources and expertise to develop this mega-scale project. Other housing land development projects in Incheon could not provide enough profit to subsidise reclamation of Songdo (KT3-DEV-INT-02, 2015). The contractors had to work without receiving the initial payment because the Project Group had no money to pay for. The government had to provide some land in Songdo as compensation instead. The Project Group even considered to use construction waste to reclaim the land in 1997 to reduce the cost (*Maeil Business*, 1997). Funding for reclamation was a major issue of the city government and council in the late 1990s, particularly after the Asian Financial Crisis (KT3-DEV-INT-02, 2015). Such difficult situation led the local government is easily wavered by haphazard private interests. The rest of this section will investigate the evolving planning process of Songdo International City and the emergence of higher education sector as one of core programmes of the city in relation to different interests.

From Suburb to Informatisation City

In the beginning, Songdo was planned and implemented as a residential suburb in Capital Region. According to the plan drafted in 1992, Songdo planned on much smaller land and much more focused on housing provision (Incheon Metropolitan City Government, 1992). The planned reclaimed area was 1,770 ha, which is 33.1 per cent of the current size of the city as shown in Figure 7-4. 530.3 hectares of land, 30 per cent of the total area, was designated for residential use. The size of the central business district was 67.6 hectare, only 3.8 per cent of the total area. There was no land dedicated for the higher education institutions and research and development functions. The feasibility study conducted in 1995 for the Project Group also did not include any idea of attracting a higher education institution in the city (Incheon Public Development Project Group, 1995). It was difficult to consider Songdo as either an international business hub or a knowledge hub in the early 1990s.

It was an inevitable choice for the city government to develop Songdo as a residential town to get approval from the central government when Capital Region Regulation was still a

Figure 7-4 1992 master plan of Songdo International City



Source: Incheon Metropolitan City Government (1995: 28).

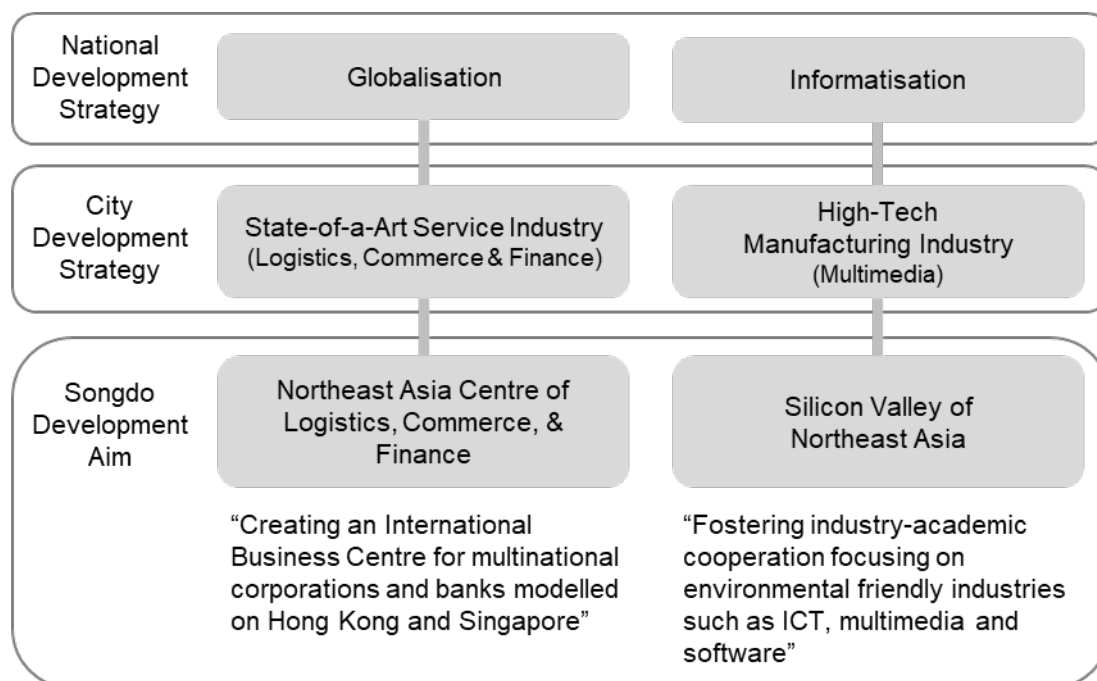
dominant discourse of the central government. The only available option for the local government was to take advantage of following government's main agendas. Two agendas of Roh Tae-Woo regime were utilised to justify the Songdo development: the 'Age of the West Coast' policy and the two-million-new-homes plan. The 'Age of the West Coast' policy was initiated in 1987 to foster the western coastal regions Korea in response to growing trade with China. The two-million-new-homes plan was one of the primary policy of President Roh Tae-Woo for housing shortage in Capital Region since 1988. Local bureaucrats were approved for the project by using these policies to persuade the central government (KT3-DEV-INT-03, 2015; KT3-DEV-INT-06, 2015; Sonn et al., 2017). Even though the Project Group had a rough idea to foster Songdo as a hub of international trade and information in 1990, the project should have been promoted as a suburban residential town until the early 1990s (*Maeil Business*, 1990, 1991, 1993).

The idea of Songdo Informatisation City emerged from the private sector in the mid-1990s through the 'Media Valley' initiative. The initiative was a major driver of Songdo to shape its urban development plan and main programmes, and the higher education institution was emerging as an important programme in the late 1990s. The government recognised the need

to foster Korean ‘Silicon Valley’ since 1993 but did not actively promote it (Kim, 2015). Then, the private sector took an initiative to realise the idea. Media Valley Promotion Committee formed in May 1996 chaired by Lee Yong-Tae, founder of TriGem Computer, with other large conglomerates such as Daewoo Telecom, LG Electronics and Hyundai Information Technology. It became the leading body to promote the idea. The Committee invited applications from local governments for the site of Media Valley in October 1996. 12 local governments competed for the winning bid, and Songdo was chosen as the priority bidder of the open call in the end on December 1996. Media Valley focuses on software and digital media industry modelled by Silicon Valley, Kumamoto Technopolis, and so on (Media Valley Promotion Committee, 1997). Media Academy is one of four core programmes of Media Valley to nurture skilled workers. Information and communication technology-oriented university and graduate school aimed to be attracted to foster industry-academic collaboration (ibid.).

The Media Valley project was an opportunity to move forward Songdo development plan. Two major strategies were embedded in Songdo development plan in 1997: globalisation and informatisation as shown in Figure 7-5. Songdo also became considered as an important strategic site for national territorial development by the central government at the time as well. In 1997, Incheon’s strategy to be an international business hub of Northeast Asia was reflected in the Second Capital Regional Adjustment Plan (1997-2011) as a part of the national territorial development strategy (Korea Research Institute for Human Settlements, 1997). Acting Prime Minister then Kim Jong-Pil also supported the plan by attending the Media Valley investment conference in 1998 promising the full support of the government to foster Media Valley as the most competitive high-tech information and communication technology cluster (*Yonhap News*, 1998). Based on the development strategy, land use concepts were prepared as shown in Table 7-1. While Zone One and Two were allocated for the central business district, Zone Two, Four, Five, and Six were allocated for Media Valley programmes

Figure 7-5 Two main development concepts of Songdo International City



Source: Incheon Metropolitan City Government (1997).

Table 7-1 Songdo International City development strategy by district

Zone number	Zone name	Development model	Major programmes	Additional programmes
1	Macro CBD	<ul style="list-style-type: none"> ▪ Yeouido BD ▪ Gangnam BD ▪ Labuan, Malaysia 	<ul style="list-style-type: none"> ▪ Trade centre ▪ Convention centre ▪ Theme park ▪ Office & residential 	<ul style="list-style-type: none"> ▪ Regional HQ of MNCs
3	Micro CBD		<ul style="list-style-type: none"> ▪ Finance ▪ Business ▪ Commercial ▪ Residential 	<ul style="list-style-type: none"> ▪ Offshore finance and trade centre ▪ Residential for foreigners
2	Media Valley	Silicon Valley	<ul style="list-style-type: none"> ▪ Multimedia industry ▪ Research 	<ul style="list-style-type: none"> ▪ Filmmaking industry complex
4	Campus Town #1	Daedeok Science & Technology Park	<ul style="list-style-type: none"> ▪ University campuses ▪ Supporting facilities 	
6	Campus Town #2			<ul style="list-style-type: none"> ▪ High-tech and environmental-friendly factory
5	Research Park			<ul style="list-style-type: none"> ▪ Research ▪ Supporting facilities ▪ Golf course ▪ Lake park
Artificial Island	Fantasy Island		<ul style="list-style-type: none"> ▪ Cultural district ▪ Lake park 	<ul style="list-style-type: none"> ▪ Theme park

Source: Incheon Metropolitan City Government (1997).

modelled by Daedeok Science & Technology Park (Incheon Metropolitan City Government, 1997). Particularly, Zone Four to Six were related to universities. The city government aimed to attract five universities (Incheon Metropolitan Council, 1997a). Universities were expected to occupy around 661.2 ha of land, which accounted for 37.4 per cent of the initial size of Songdo (Incheon Metropolitan Council, 1997b).

Difficulties in attracting elite universities

The city government was eager to attract universities to foster the area as 'Silicon Valley of Northeast Asia' as one of two key pillars of development strategy. To achieve this plan, local bureaucrats wanted to attract elite universities to Songdo, but it was difficult to do so since Songdo was even not fully reclaimed yet. According to one of the local bureaucrats who led the development and was interviewed for this research, none of the elite universities, but only seven unfavourable ones were interested in opening their satellite campus in Songdo in the mid-1990s (KT3-DEV-INT-05, 2016). The only available option at the time thus was to relocate two local universities: the University of Incheon (currently Incheon National University) and Inha University (ibid.). However, again, it was anything but clear sailing to relocate two local universities to Songdo. The case of Inha University was much difficult than the University of Incheon since Inha is a private university. The university initially expressed its intention to move to Songdo in 1996 (*Donga Ilbo*, 1996). However, the discussion could not progress due to the disagreement over the land price between the university and the city government as well as the financial difficulties of Hanjin Group, the owner of the university, caused by Asian Financial Crisis (Inha University, 2004; KT3-DEV-INT-02, 2015; KT3-DEV-INT-05, 2015).

In the case of the University of Incheon, the process was expected to be easier because the university was owned by the city government after its municipalisation in 1994 resulting from a corruption scandal of its former educational foundation. Following a 17-month-long debate, the members of the university finally reached an agreement to relocate the university to Songdo through the final vote among all academic staff in May 1997 (University of Incheon,

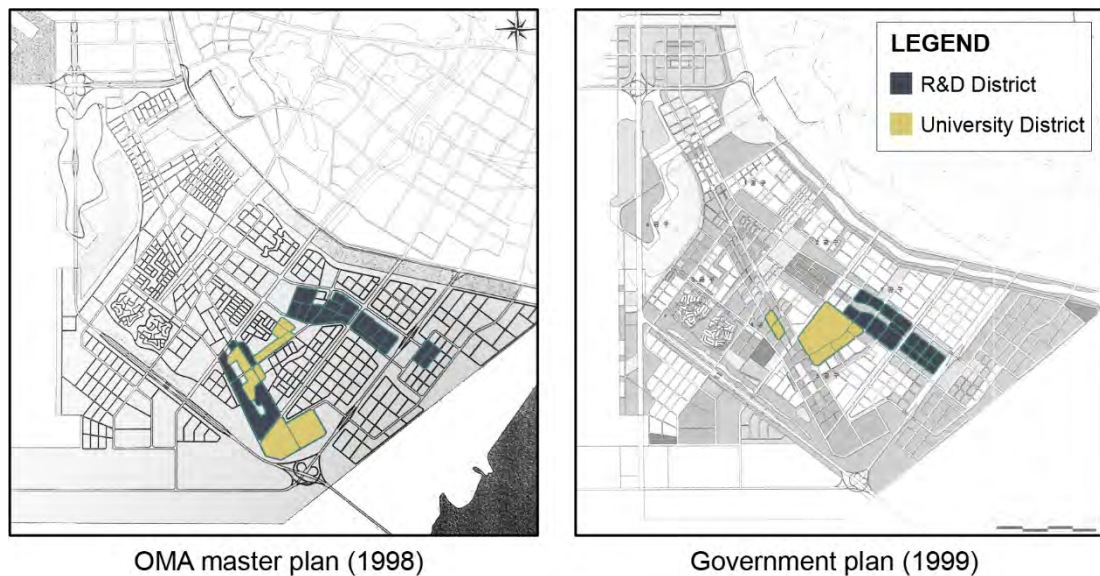
2010). The city government then stopped the process in 1997 because the government thought the university demanded too many conditions for relocation (ibid.). It was not until 2002 that the city government resumed discussions on the relocation of the university, particularly in the wake of Asian Financial Crisis (ibid.). The newly elected entrepreneurial mayor Ahn Sang-Soo pursued the relocation of the university from 2003 (ibid.). The university ended up opening its new campus at a distant site in Songdo surrounded by a golf course and factories in August 2009. Such a decision by the mayor was believed to be largely political, by attempting to accumulate achievements before an election without careful consideration of broad development goals (KT3-DEV-INT-02, 2015; KT3-DEV-INT-03, 2015; KT3-KRU-INT-01, 2016).

Even in this situation, where there is no university to move in, Songdo's master plan continued to develop further. In 1998, the city government invited three architectural design firms from three different continents, Gruen Associates from the US, Nikken Sekkei from Japan, and the Office for Metropolitan Architecture (hereafter OMA) from the Netherlands, to draft Songdo's master plan (SK Lee, 2004). This process was largely supported by Daewoo Group, the second largest *chaebol* in Korea before its collapse caused by the Asian Financial Crisis, since the company had a substantial interest in Songdo (KT3-DEV-INT-02, 2015). OMA once made a proposal for Incheon's new airport city in 1995, but it was not expected that OMA would be selected as the winning proposal, since the concept of OMA's master plan was progressive and unfamiliar to the jury and local bureaucrats (KT3-DEV-INT-02, 2015; OMA, 1996). After three presentations, the jury accepted OMA's idea to divide the city into two programmatic bands, the Patio and Network bands, to enable the city to accommodate unexpected change or uncertainty through 'just-in-time' planning (KT3-DEV-INT-02, 2015; OMA, 1998: 45, 2004: 430). While the Patio bands were planned to accommodate more predictable programmes such as housing, schools, and public parks, Network bands accommodated more complex and intense functions such as commercial and office uses with easier access to public transportation and housing areas in the city (SK Lee, 2004; OMA, 1998). Media Valley, planned in Network

bands, was the largest part of the master plan occupying 322 hectares of the total land of 2,367 hectares, and 138-hectare land plots were allocated for R&D and university uses, accounting for 42.9 per cent of Media Valley (OMA, 1998). OMA planned to locate R&D and university functions closely to promote the 'cross fertilisation of ideas' by promoting interaction between industry and research (ibid.: 22).

OMA's gradual development plan of the city could have been an appropriate strategy for the local government, since Korea was experiencing financial turmoil due to the Asian Financial Crisis, but the plan eventually became diluted. Firstly, the local government could not ask OMA to develop the master plan because the city government could not afford the fee, so the plan was further developed by a local engineering firm (KT3-DEV-INT-02, 2015). In the 1999 plan, the size of land plots allocated for R&D and university was 139.4 hectares, which was similar to OMA's 1998 plan (Incheon Metropolitan City Government, 1999). The urban form of OMA's master plan altered but remained somehow. However, the idea of the gradual development of network and patio bands could not be kept. Land plots for R&D and the university became more like separate entities, as shown in Figure 7-6. Secondly, the plan kept altering based on short-sighted haphazard interests, since the city government suffered from a lack of funds and resources to carry out the original plan. In particular, the city government suffered from funding the construction costs of the city due to slow land sales, while the Media Valley project collapsed in 2000 due to continued conflicts between the city government, the city council, and the private sector (KT3-DEV-INT-02, 2015; *Maeil Business*, 2000). As a result, the city government lobbied the central government to designate Songdo as a Free Economic Zone to seek support from the central government. After the designation of the free economic zone, Zone One and Three were sold wholesale to a joint venture of POSCO, a Korean-based steel conglomerate, and Gale International, a New York-based local real estate developer. Zone Six and Eight were sold to a consortium led by an Atlanta-based real estate developer, Portman Holdings. Songdo has become a playground for speculative interests.

Figure 7-6 Plan of R&D and University Districts in Songdo International City in 1998 and 1999



Source: Author made based on OMA (1998) and Incheon Metropolitan City Government (1999).

The case of Songdo International City is differentiated from previous cases discussed in earlier chapters. Songdo was a large-scale urban development project initiated by an entrepreneurial local government to promote the competitiveness of the city. The agenda of development has shifted due to changes in the economic environment: from the mid-1990s, the knowledge-based economy became a dominant discourse of development. However, the government had limited financial resources and expertise to proceed with the project, since there was no strong support from the central government. Thus, the local government had to rely on other private sector entities, such as *chaebol*. This led to the development plan becoming uncertain and vulnerable to haphazard short-sighted interests, so that it could not provide a long-term benefit for the city. Such interests originated from local politicians, private entities, or a combination of two, and ones from the private sector are primarily material and related to land-based accumulation led by speculative real estate development (Shin, 2017). Universities are not an exception in this process. Since they began to be conceived as an important element of the city, several universities have attempted to maximise their material gains through the project. The following section will investigate Yonsei University as a case of how the university was mobilised for the development of Songdo International City and how the university has pursued its material goals.

7.1.2. Yonsei University Songdo Campus

Yonsei University was the first private university to open a campus in Songdo International City. After its first agreement with the city government in January 2006, Yonsei University opened Phase 1-1 of its International Campus (previously known as Songdo Global Academic Complex) in February 2010 and subsequently Phase 1-2A in April 2013 and Phase 1-2B in April 2014 (Yonsei University, 2017). The major programme of Songdo Campus is a residential college: 4,000 of the first-year students lived and studied on the campus. Several graduate study programmes were also established. The campus sits on 61.6 hectares of land in Zone Five of Songdo International City (Incheon Metropolitan Council, 2008d). It is 64 per cent of the size of the Seoul campus (96.2 hectares) and the Songdo campus development was the largest university expansion project since the 1990s (Yondo, 2006). According to the agreement between the university and city government, it is expected that the size of Songdo Campus will increase even more after the completion of Zone 11 reclamation. The campus has become a model for other universities seeking campus expansion and introducing the residential college model (Jeong, 2016; KT3-YSU-INT-02, 2015; KT3-YSU-INT-03, 2015).

Entrepreneurial academics meet an entrepreneurial mayor

The development of Songdo Campus was initiated by the proposal made by Mayor of Incheon Metropolitan City, Ahn Sang-Soo. The university had sought an opportunity for the third campus from the 1990s, since there was a widespread perception among academic staff that there was a lack of space in the Seoul Campus and that Wonju Campus was too far away to be integrated with the Seoul Campus (KT3-YSU-INT-01, 2015; KT3-YSU-INT-03, 2015; KT3-YSU-INT-04, 2015). Some sites, such as Asan New Town and Gimpo landfill (currently, Cheongna International City) were considered seriously, but they were not realised due to cost issues and surrounding politics (KT3-YSU-INT-03, 2015; KT2-DEV-INT-01, 2016). Meanwhile, the entrepreneurial Mayor Ahn was searching for an elite university to be attracted in Songdo. According to his autobiography, he firstly contacted Seoul National University and the president of the university then visited Songdo twice, but the discussion could not

Figure 7-7 Master plan of Yonsei University Songdo Campus



Source: Author depiction based on the Songdo Global Complex Development Company (n.d., retrieved from <http://www.sgcd.co.kr>).

develop further in 2004 (Ahn, 2012). Then, he contacted two elite universities in mid-2005: Korea University and Yonsei University, but Jung Chang Young, then President of Yonsei University, was the only one to show interest (ibid.).

The initial agreement made between Yonsei University and the city government on 26 January 2006 was unprecedented, thus it received much attention. The main content of the memorandum of understanding was to sell 182 hectares of land in Songdo to the university for KRW 151,250 per square metre. The price represents the original cost of land after reclamation. For the first stage, 92.6 hectares would be sold to the university, and the university would develop 26.5 hectares of it as commercial and residential to subsidise the construction cost of the new campus (Yonsei University, 2008). The land price was a bargain considering the prices of other government-led housing land development projects in the capital region at the time. The average price of housing land at the time was KRW 1,177,156, which is 7.8 times more expensive than the agreed price (*Maeil Business*, 2006). Through housing and commercial

development projects conducted by the university, it was expected that its capital gain would be maximum KRW 1,000 billion (*Hankyoreh*, 2008a). After this unprecedented agreement was announced, Songdo became a destination for private universities. Three months after the agreement, there were more than six universities that showed their willingness to establish their branch campuses in Songdo, including Seoul National University and Korea University (*Newsis*, 2006).

For negotiating with the city government and developing a plan, the university formed an internal project team of academic staff in October 2015 after receiving an offer from Mayor Ahn (Yonsei University, 2008). The city originally offered land in Cheongna International City, which is one of three districts of Incheon Free Economic Zone, but the university asked for the land in Songdo because the university thought that Songdo had more potential as a city and less risk due to the lack of any land ownership issues, since it was reclaimed land (*ibid.*). The university also demanded 330 hectares land for accommodating both educational and R&D facilities as well as residences for foreign staff and students. A 330-hectare piece of land was three times more than the area dedicated to international business in Songdo at the time (Korean Ministry of Finance and Economy, 2005). It was shrunk to 182 hectares and divided into two areas, but this was still twice as large as the current size of Seoul Campus. A strong financial support from the city government was also required since the university did not have enough financial resources to build the campus (*ibid.*; KT3-YSU-INT-04, 2015). Then, the city government let the university develop 26.5 hectares to subsidise the campus as mentioned above.

The bargain deal could be realised because the interests of the mayor and the university overlapped. The mayor then clearly wanted to accumulate his achievements during his regime, as investigated above (KT3-DEV-INT-02, 2015; KT3-DEV-INT-03, 2015; KT3-YSU-INT-01, 2015). He demanded to bring some big-name universities to Songdo. According to his autobiography, the university's reputation was a top priority for him (Ahn, 2012). Yonsei University was a good partner for achieving his goal. This political purpose became the reason

for Yonsei University to take the lead in negotiations, which resulted in a favourable deal for the university. Some local bureaucrats, who were alumni of Yonsei University, also facilitated the negotiation process. For example, the idea to cross-subsidise the new university campus from property development was derived from the experience of International Business District where public facilities such as Central Park and Convention Centre were funded through revenues from residential development. Such an idea was only able to be formulated with the support of local bureaucrats (KT3-DEV-INT-02, 2015; KT3-DEV-INT-05, 2015). In the process, the broader development goal of Songdo as a high-tech hub was largely ignored (KT3-DEV-INT-03, 2015). One example is the location of the university in Songdo. As shown in Figure 7-6, the university was supposed to be in the R&D district to foster industry-academic collaboration, but the university requested the land near the first metro station of Songdo so that staff and students could travel to Seoul easily (Yonsei University, 2008). Such decisions were concluded in discussions that lasted less than five months. This process, not surprisingly, was conducted clandestinely in order to minimise any opposition from students and other members of the university.

What did the state do?

Despite the agreement between the university and the city government made in an instant, it took 33 months until the ground-breaking ceremony for its new campus, which happened on 26 November 2008. Yonsei University signed a temporary contract with the city government in May 2006 and made a down payment of KRW 3.5 billion to purchase the land in July 2006 (*Donga Ilbo*, 2006; Songdo Global Academic Complex Development Company, 2008). However, the development pace was eventually slowed down to seek approvals from the central government and the local council.

In the case of the central government, its regulatory nature hindered the development process. The central government had to be cautious about this project because it was the first large-scale university development project in a free economic zone. According to the Special Act on Designation and Management of Free Economic Zones, a master developer was assigned

to conduct development projects in a free economic zone. In common cases, this should be a free economic zone authority, but in the case of Yonsei University Songdo Campus, a separate entity was required since the campus development had to proceed alongside other for-profit development projects. The university planned to establish its own project vehicle to conduct the development project, but the central government saw the plan of the university to conduct a large-scale property development project as a special favour (KT3-YSU-INT-01, 2015; KT3-YSU-INT-03, 2015). As a result, Songdo Global Complex Development Company Ltd., a third-party project vehicle, was established for the project in December 2006 so that project could lean more toward a public purpose.

The central government also asked the university to attract more international institutions because it was a new university campus in the free economic zone. The Ministry of Finance and Economy formulated guidelines on attracting educational institutions only for Songdo International City, which prioritised foreign universities and research institutions in April 2007 (Korean Ministry of Finance and Economy, 2007). Then the central government even refused to table the project for approval until September 2008 by arguing that the university was not preparing to do enough to attract foreign universities and research institutions (*Yonsei Chunchu*, 2008b). Again, the central government was very cautious about the local government selling a large amount of land in a free economic zone to the university through a non-competition contract (KT3-YSU-INT-03, 2015). Nevertheless, the central government could not keep putting off the proposal, since it obtained the approval from the city council in April 2008. The university's staff continued lobbying the central government as well (ibid; KT3-YSU-INT-01, 2015). Two-stage approvals were eventually made by the central government in September and October 2008, respectively, with the condition that 50 per cent of the land and buildings be used by foreign institutions (*Yonsei Chunchu*, 2008c). Then, on 5 November 2008, the Ministry of Knowledge Economy approved the execution plan, followed by the land purchase and planning permission.

Looking at the consequences of central government's regulatory actions, they barely played any role. Firstly, the Songdo Global Complex Development Company Ltd. played a role in relieving the university's financial risks rather than pursuing a public purpose. The company was a special project vehicle established for conducting the new campus development project. The ministry requested Yonsei University and the city government to establish it because the ministry considered it not desirable for an educational institution to directly engage a property development project (KT3-YSU-INT-02, 2015). The company only had a starting capital of KRW 300 million. Considering that the projected revenue of the project was KRW 1,000 billion, the amount of the starting capital seemed rather inappropriate. It meant that the project's financial risk to the university had been reduced significantly. Nevertheless, the university still had full control over the company. Subsidiaries of Incheon Metropolitan Government invested 51 per cent of the total company shares, and other financial services firms invested the rest. It seems like the government has the majority of the shares, but the government gave up the voting rights of two per cent of its shares because the university wanted to prevent the situation where the project vehicles was swayed by the city government (KT3-YSU-INT-04, 2015). So the government and financial services firms have equal power in the company. Furthermore, the firms have delegated all voting rights to Yonsei University. As a result, the city government elected two board members, including one full-time board member, and the university elected two board members. This meant that the city government and the university had equal power: The company was established only for conducting the project, and some of the key staff, such as the Head of Operations and the Head of Management, were nominated by the university (KT3-YSU-INT-02, 2015; KT3-YSU-INT-03, 2015).

Secondly, the condition to allocate half of the land and building space to foreign universities and institutions was, in fact, unable to be achieved by the university and was unable to be enforced by the central government. As shown above, the central government conditionally approved the project. If the university fails to fulfil the condition, it is supposed to compensate for some of the funds received (*Yonsei Chunchu*, 2009). This means that Phase 1-3 should be

fully occupied by foreign entities, but currently, no projects or plans are underway for the other half of Songdo Campus since April 2014, when Phase 1-2B was completed. There are two reasons for this slow progress: firstly, the expected income from property development was much reduced due to the slowdown in the property market. The support of KRW 1,000 billion was estimated when the property market was booming before the Global Financial Crisis in 2008, and the actual amount was subsequently reduced to less than KRW 500 billion (KT3-YSU-INT-01, 2015; KT3-YSU-INT-04, 2015). Secondly, it was difficult to attract foreign universities to Songdo realistically at a time when there were no infrastructure and financial initiatives for foreign universities, while other Asian countries like Singapore and China were not only offering land and building but also financial incentives by the government (KT3-YSU-INT-01, 2015; KT3-YSU-INT-03, 2015; KT3-YSU-INT-06, 2015). While the central government understands this deadlocked situation, it does not have enough justification to claw the funds back from the university, particularly because the funds did not come from the central government and the city government and city council agreed to the project (KT3-YSU-INT-01, 2015).

Opposition from the local council

The opposition from the members of the Incheon Metropolitan Council was also a key challenge for the university to overcome. The local council already played a significant role in suspending the Media Valley project. From the beginning of the project, the council constantly questioned the idea of selling land to Media Valley cheaply (Incheon Metropolitan Council, 1997c). Then the council forced the city government to break the agreement with Media Valley Promotion Committee, mainly because of the land sale issue (KT3-DEV-INT-02, 2015; KT3-DEV-INT-03, 2015). As also investigated by Sonn et al. (2017), the city council rather wanted to develop Songdo for housing, which could bring revenues to the city immediately so that they could be invested in other parts of Incheon. Similarly, the councillors strongly objected to approving the project twice, in February and March 2008, by questioning the reason for offering a special favour to Yonsei University (Incheon Metropolitan Council, 2008a, 2008b;

KT3-YSU-INT-07, 2015). One of the local councillors who opposed the project elaborated the reason for the objection during an interview:

There are local universities [in] the city. Now is the era of local autonomy. There are many universities in Incheon, but there has been no equity for them. So, we asked that if the city provides KRW 600 billion for Yonsei University, 300 billion should go to local universities. If 130 or 160 hectares of land is given to Yonsei University, 30 hectares should be given to Inha University as well. And this is not enough. What is the point of only giving land to local universities, which have no big money to build their campuses? Give them several hundred billion in addition to land as well. Support them to some extent for fairness, even if the government cannot support them greatly. (KT3-YSU-INT-07, 2015)

After having a two-month negotiation, the fund allocated to Yonsei University from the future revenues was reduced from 1,000 to 650 billion KRW (Incheon Metropolitan Council, 2008c). The rest of the future revenues, supposed to be KRW 350 billion, was allocated for the use of attracting foreign universities and institutions, shared by all universities in Songdo (ibid.). Yonsei University's project team could persuade the council to do this by explaining the future benefits of having the university in Songdo as well as the initial benefits that would emerge right after the agreement was signed (KT3-YSU-INT-04, 2015): the team emphasised the increase of land and housing prices and the related tax income increase as the initial benefit resulting from the announcement of the new university campus plan (KT3-YSU-INT-04, 2015; *Kuki News*, 2006).

Although the amount of support for Yonsei University reduced significantly, it is doubtful whether this effort by the local council has led to a positive outcome as a result. As mentioned above, the expected revenue of KRW 1,000 billion was calculated at the peak of the property market, and the adjusted revenue at this moment is decreased to less than 500 billion, which means that there are no funds left for the shared funds for other universities to attract foreign institutions. The attempts of the city council to support local universities eventually came to nothing.

The city council also missed an opportunity to foster Songdo as a high-tech hub. Within Yonsei University, the opposition to the Songdo campus was severe since its plan was announced. The initial plan was to relocate the first year students to Songdo, but during a hearing on Songdo Campus in November 2006, the plan was changed to sending second to fourth year students at least one term to live in Songdo Campus (Yonsei University, 2006a). Then, on 31 May 2008, the university announced a new plan to move certain colleges to Songdo Campus instead of sending all first-year students (*Yonsei Chunchu*, 2008a). The reason why the plan had been changed was that student groups, as well as academic staff, did not want to move to Songdo, which was considered a very remote location at the time (KT3-YSU-INT-04, 2015; *Yondo*, 2012). Meanwhile, the city council kept pressing Yonsei University by criticising them for not carrying out a promise to bring the first year students to Songdo (KT3-YSU-INT-04, 2015; KT3-YSU-INT-07, 2015; *Kyeongin Ilbo*, 2011). Such criticism enabled Yonsei University to decide more easily to bring the first-year students to Songdo in 2012 (KT3-YSU-INT-07, 2015). If engineering or biotechnology departments were moving to Songdo instead of the first-year students, the city could have benefited more through industry-academic collaborations. It could also be easier to attract foreign institutions. This short-sighted demand of the city council has hindered Songdo's future development potential as a high-tech hub. Yonsei University Songdo Campus now exists as a secluded place in Songdo.

Section conclusions

The case of Yonsei University Songdo Campus shows the emerging entrepreneurial behaviour of the university. The university utilised its symbolic capital to cooperate with an entrepreneurial mayor to maximise its material gain. The university was able to open its branch campus using minimum risk and capital. Land-based local interests played the main role in this process, but the role of financial capital is less visible. Such a coalition shows many similarities to the growth machine concept, particularly because the supralocal influence played a limited role in the project, unlike previous studies on the growth machine in East Asia (Bae and Sellers, 2007). The project has become a model for other universities and local

government in Korea, such as Seoul National University in Siheung and Sogang University in Namyangju. On the other hand, such a project is highly problematic because it cannot be a sustainable model: As the case of Songdo Campus indicates, it can only be conducted through speculative urban development projects when the property market is booming. While the development cost has imposed upon neighbouring homebuyers, its benefits to the city and its residents are rather ambiguous.

7.2. Diversified urbanisation processes by NUS

This section covers two cases involving NUS: NUS University Town and the redevelopment of Gillman Heights. University Town project is the largest campus expansion project opened in 2013. The concept and space made in University Town are radically different from the existing campus of NUS. In this regard, the first section will focus on how the project was initiated, planned, and implemented, as the case shows the changing concept of the university in Singapore. Then, the second subsection will investigate the redevelopment of Gillman Heights into a 1,040-unit luxury condominium Interlace covering most of the implementation process: NUS played a major role in initiating this project, and the university actively sought speculative profits from it.

7.2.1. UTown as the new university space

University Town (hereafter UTown) is the NUS's largest expansion project since its move to Kent Ridge began from the 1970s. UTown's ground-breaking ceremony was held in January 2008. Five years later, on 17 October 2013, it was officially opened by Prime Minister Lee Hsien Loong. On 19 hectares of land connected to Kent Ridge campus by a bridge over the Ayer Rajah Expressway, the university has built residential colleges for undergraduates and residences for graduate students. More than 4,000 students are living and studying in UTown to promote a new model of teaching and learning through the 'open exchange of ideas, creativity and multidisciplinary engagement' (Tan, 2010, 2013). Along with residences and

Figure 7-8 Bird's eye view of NUS UTown



Source: NUS Office of Environmental Sustainability (2017).

educational facilities, research facilities named Campus for Research Excellence and Technological Enterprise (CREATE) have been also built. It currently houses several research-oriented institutions, such as the Singapore-MIT Alliance for Research and Technology, the Singapore-ETH Centre and the National Research Foundation. In UTown, there are 26 buildings, with a total gross floor area of 292,000 sqm (NUS University Campus Infrastructure, 2016). UTown's building density is much higher than that of Kent Ridge campus (see Figure 7-8). The size of the land is only 13.5 per cent of Kent Ridge, but the size of gross floor area is 26.2 per cent, resulting in a density that is twice as high as Kent Ridge campus (ibid.). UTown has many other differences from the existing campus in terms of architectural style, programmes, and planning and implementation processes. This section will investigate UTown as an emerging form of university expansion projects in Singapore.

The site of UTown was previously used as a golf course called Warren Golf Club. As the name suggests, it was a golf course belonging to a British Army base since 1962. After the withdrawal of the British Forces from Singapore, the club opened its door to the general public since 1971 (*Straits Times*, 1971). The government then leased the land to the club on a yearly basis like other golf courses until 1992 (*Straits Times*, 1992a). Golf courses have been considered as spatially excessive in a country like Singapore, where a rhetoric of land scarcity

dominates (Neo and Savage, 2002). Then at the end of their leases in 1991, the government offered another 30-year lease to some golf clubs, but Warren was not given one. The Ministry of Land's policy was to 'allow a golf club to operate on land which is not needed for other uses for the duration of its lease', and the reason the government did not extend Warren's lease was to provide the land for NUS' expansion (*Straits Times*, 1992a: 28). Warren Golf Club eventually accepted a five-year lease offer from the government in January 1992 and began to its plan to move to Kranji (*Straits Times*, 1992b).

The emergence of entrepreneurial academics

The case of Warren Golf Club implied that the area was earmarked for NUS in 1991, but this did not mean that the decision was fully made. In October 1998, a plan was revealed to develop a new campus on 40 hectares of Warren Golf Club for research institutes, teaching facilities, 5,000-unit residences and other commercial facilities to promote a more lively and self-contained campus, which is similar to the current concept of UTown (*Straits Times*, 1998b). The university management persuaded Deputy Prime Minister Tony Tan, who had been supportive of the development of universities in Singapore, as shown in previous chapters, to support the project: the URA, however, did not have a clear stance on this land in the beginning (ST3-NUS-INT-04, 2016). During this time, the URA's plans altered several times: in 1991, under the Concept Plan, which was URA's national territorial development plan looking 40–50 years into the future, the area was designated as green space (URA, 1991). Then, the URA's Queenstown Planning Area Planning Report 1994 indicated the area for educational uses, followed by 1998 Master Plan, which is a plan for 10–15 years in the future, indicating the area as a reserve site for future development (URA, 1994, 1998). However, again, the 2001 Concept Plan designated the area as one for residential use (URA, 2001). This changing condition meant that the university needed strong momentum and approval from the Cabinet, to realise the project.

There were several key players to realise UTown. Firstly, Prof Shih Choon Fong played an important role as President of the NUS from 2000 to 2008. Prof Shih, a Harvard alumnus from

Singapore and a professor at Brown University then, was invited by the National Science and Technology Board to establish a research centre in December 1996. He then became Deputy Vice-Chancellor in November 1997 (NUS, 2000). Vice-Chancellor Prof Lim Pin led the university for two decades from 1981 to 2000. NUS needed new blood to transform the university when the higher education sector reform was actively conducted in the 1990s (see Chapter Six). One of the NUS professors I interviewed informed me that Shih was recruited by the government because he was considered as a suitable person from a US university to reform NUS without any negative influence from existing personal connections within the university (ST2-NUS-INT-02, 2016). Prof Shih implemented several new policies such as opening overseas campuses and fostering international collaboration by expanding student exchange programmes as well as opening Duke-NUS Graduate Medical School. He also laid the foundation for the establishment of Yale-NUS College. Moreover, Prof Shih led the process to put NUS on the global map: NUS emerged as the 18th best university in the world according to the Times Higher Education World University Ranking (*Straits Times*, 2005). Later, Prof Shih was described as a ‘transformer’ by the Minister for Education in 2008 (NUS, 2008). UTown is one of Prof Shih’s achievements at NUS.

Secondly, Prof Yong Kwet Yew also played a key role as Vice President (Campus Infrastructure). NUS Office of Estate and Development (OED) was established in 1998 by merging the Estate Office and Campus Upgrading Unit led by Prof Yong, who was then Head of the Department of Civil Engineering (NUS, 1998). Then he became Vice President of the university in 2001 to oversee seven different offices in relation to campus development and operations under the University Campus Infrastructure cluster. The position was made by Prof Shih (ST3-NUS-INT-07, 2016). Before the establishment of OED, planning and design jobs were done by government architects and engineers haphazardly (ST3-NUS-INT-04, 2016). There were no professionals within the university to plan and implement development projects, as Prof Yong recalled:

When I came in, I was horrified that this was all done by the government. I was also surprised [that] we [didn't] even have a set of drawings. You know... everything we did was by government consultants. And I started to ... build up the office. Last time, the campus team was a one-man show. One person, he just connected it between the university deputy president and consultants. There is no office. There is no evaluation. Everything relied on the outside: the government. We did not even have a drawing, but luckily took [the drawings from the government], because, after that, the government started to sell off PWD, sell off CPG, sell off all these things. I, luckily, have all these things. If I did not prepare myself, we [would] not even have a single drawing of our buildings. (ST3-NUS-INT-04, 2016)

Prof Yong led the development process of UTown by setting up OED and other offices. As a result, the campus plan is not done as a one-off, but with continuity.

The UTown project was initially difficult to pursue because it was too costly, considering land and building costs, which were estimated to be more than S\$1 billion at the time (ST3-NUS-INT-07, 2016). To win the Cabinet's approval, NUS required external support. So they appointed Dr Liu Thai Ker, a prominent architect of Singapore as well as former Chiefs of URA and HDB as master planner of NUS on 23 December 1999 (NUS Office of the Vice President (Campus Infrastructure), 2016; ST3-NUS-INT-04, 2016). Dr Liu, as a former URA and HDB Chief, knew how the government system worked and how to present to the Cabinet to win its approval (ST3-NUS-INT-04, 2016). After having several meetings with Ministry of Education, on 10 January 2002, Prof Shih, Prof Yong and Dr Liu presented the new master plan and UTown project to the Cabinet (NUS Office of the Vice President (Campus Infrastructure), 2016; ST3-NUS-INT-07, 2016). They succeeded in receiving the initial approval of the project by the Cabinet. Prof Shih recalled that that Dr Liu's support played an important role in getting the approval (ST3-NUS-INT-07, 2016).

Inevitable state interventions

Despite the agreement made in the Cabinet, the project could not proceed because of the funding unavailability. NUS worked with the Ministry of Education and the Ministry of National Development to identify land requirements after the Cabinet approval, but the project could not proceed until 2005, since the idea of the residential college was not an urgent issue

for the government (ST3-NUS-INT-07, 2016). Then, the project had an opportunity to be realised in 2005 through the Ministry of Finance's Public-Private Partnership (PPP) framework (*Business Times*, 2005). In the early-2000s, the government actively promoted PPPs in government projects by public agencies as a part of public sector reform. In the handbook published by the Ministry of Finance in 2004, all public capital development projects costing S\$50 million would have to consider using a PPP framework (*Straits Times*, 2015b). The government then tried to implement a PPP pilot project in each public sector. Some examples were the Singapore Sports Hub and the National Stadium, which was overseen by the Singapore Sports Council, the Institute of Technical Education (ITE) College West, which was overseen by the ITE, and the Changi NEWater Plant, which was overseen by the Public Utilities Board (Gunawansa, 2010; ST3-NUS-INT-05, 2016). UTown project was selected as a pilot project for educational facilities (ST3-NUS-INT-05, 2016).

In the end, the attempt to pursue UTown as a PPP project failed. It took two years for the university to examine the feasibility of PPP framework for the UTown project, since there were complex legal and financial issues to study (ST3-NUS-INT-05, 2016). The first call for proposal was expected to be made in April 2006 but it was only in February 2007 when the call for submission of pre-qualification for bidding was made (*Business Times*, 2007a, *IJGlobal*, 2006). Then the university shortlisted three consortia from five qualified ones in July 2007 (*IJGlobal*, 2007b). The project budget was S\$600 million with, a 25 to 30-year concession period, and it was aimed to be operational by mid-2010 (*ibid.*). In the meantime, in September 2007, the PPP project was suddenly suspended without any reason provided (*IJGlobal*, 2007a). The government then announced in January 2008 that the project would be funded and implemented by the government (Singapore Ministry of Information, Communications and the Arts, 2008). As argued by Gunawansa (2010), it seems that the higher education sector was highly regulated by the government, and thus the idea of a PPP was not a favourable option for both the government and the private sector. NUS Vice President (Campus Infrastructure) also recalled that the financial deal proposed by the consortia was too

costly for the government to accept (ST3-NUS-INT-05, 2016). The attempt to introduce a PPP framework into the higher education sector eventually delayed the project by two years.

The project was also pursued as a part of the first Summer Youth Olympic Games in 2010 by the government. The International Olympic Committee (IOC) launched the bid process for the first Youth Olympic Games in August 2007, only three years before the Games (Singapore Youth Olympic Games Organising Committee, 2010). During two months of preparation, UTown emerged as a site for the Youth Olympic Village; a senior government official thought that UTown was appropriate for this because its characteristics were similar to the requirements of IOC, such as the number of beds and other supporting facilities as well as its convenient location for accessing sporting venues (ST3-NUS-INT-05, 2016). The Youth Olympics was not the reason that UTown was pursued as a PPP project, but NUS asked the consortia to complete the project before February 2010, since it had to be ready for the Games (*ibid.*). The Youth Olympic Games turned out to be an opportunity for NUS to get the assurances of the UTown project from the government.

Nevertheless, the government's plan to use UTown as Youth Olympic Village was eventually scrapped, mainly due to the problem of construction costs. The IOC expressed concern in November 2007 that the project could not be completed by February 2010 (*TODAY*, 2008a). Accordingly, Prime Minister Lee Hsien Loong made a speech at the ground-breaking ceremony of UTown on 31 January 2008, less than one month before the final bid, to ensure the completion of UTown before the Games (*ibid.*). However, at the time, the construction boom in Singapore resulted in 'significant' increases in construction costs, too high to allow the project to be ready by February 2010 (ST3-NUS-INT-05, 2016; ST3-NUS-INT-08, 2016; *Straits Times*, 2008g). Less than six months after winning the bid, the government announced the new plan to accommodate Youth Olympic Village in NTU in August 2008 by upgrading its facilities as it did for the 12th Southeast Asian Games held in 1983 (*Straits Times*, 2008g). By this decision, the government expected to save a few hundred million Singapore dollars (*TODAY*, 2008c). The UTown project was not stopped, but its development pace considerably

slowed down. The cases of PPP and Youth Olympic Village show that the project implementation had to be swayed by the government because the university had no funding for the project even though UTown was planned and implemented by entrepreneurial academics.

Americanised space?

UTown is differentiated from the main campus in terms of its high-quality design to promote interaction among students. As investigated above, NUS Kent Ridge campus was designed haphazardly by different government architects and engineers. The design of UTown focused on the connection and integration of buildings, which were not considered carefully in the main campus (ST3-NUS-INT-08, 2016). This idea was clear in Prof Shih's comments about UTown made in 2005:

The diverse mix of different nationalities, cultures, languages and religions will foster openness and global orientation. This 'no-walls' learning and living habitat will provide a rich and meaningful educational experience – one that engages each student as an individual and brings out the best in them. I hope this shared experience will become an indelible part of their lives. (NUS, 2005a)

Such design was largely influenced by Prof Shih's experiences in the US as a student at Harvard and then a professor at Brown. Prof Shih also stressed his experiences in the US during a research interview by mentioning that:

I was very much influenced by my American experiences. I thought that was a good experience. So I never believed learning should be just classrooms. I think learning cannot be separated from living, [and the] social and cultural and [interaction] of students. I felt we have to integrate learning with culture, social [life], sports and engaging with your fellow students and engaging with international students to get international exposure and [an] international perspective. I felt that is what I called, you know, learning, proper learning. I called [this] learning for the developed individual. So my US experience led me to [this] thinking... so in this case, infrastructure needs to be re-conceived to make this happen. Because, as I said, we design infrastructure, but in the end, the infrastructure will design us. We design the way we think and influence the way we learn and the way we engage. So infrastructure really influences [us]. It has a very powerful influence on learning outcomes. (ST3-NUS-INT-07, 2016)

One of the interesting things about his remarks is that he emphasises international students. In his Commencement 2001 address, Prof Shih already revealed his idea to foster international student exchange programmes (NUS, 2001a). In 2001, there were only 280 undergraduate students on exchange programmes (NUS, 2001b). The number increased by more than five times to 1,462 in 2010 (NUS, 2010). Increasing outgoing students means increasing incoming students as well. The school obviously required high-quality space to accommodate them. An interview with Project Director of UTown indicates this aspect:

The trick of having exchange students is... you can't send your students out to MIT unless you create a space [for] MIT students in your campus. MIT students are kind of fussy. They are not going to come to a place that is not very nice. They are not dumb. You know, Singapore has an incredible advantage [over] other Asian countries because it is English-based. So it is easy for a lot of students go to school here, but they also want to have some place nice to live. So we didn't have enough places for exchange students to come. We need to create more beds. Right now, 2,500 students are coming every year. So that was a part of the idea. (ST3-NUS-INT-08, 2016)

This interview implies that UTown was also designed not only for NUS students but also for attracting international students. In this regard, UTown was designed as a space inspired by US universities. This idea is considered highly successful and is now being replicated in NUS Main Campus as well (ST3-NUS-INT-08, 2016).

This 'Americanisation' of campus space was done by various staff and consultants from the US. This process was led by Prof Shih (ST3-NUS-INT-07, 2016). A representative figure hired by Prof Shih is Joseph Mullinix, who was Deputy President (Administration) of NUS from 2006 to 2015. Before coming to NUS, he was Senior Vice President for Finance and Administration of the University of California from 2000 to 2006 and Vice-President for Finance and Administration of Yale University from 1993 to 2000 (NUS America Foundation, n.d.). He oversaw the implementation of the UTown project (ST2-NUS-INT-02, 2016; ST3-NUS-INT-07, 2016; ST3-NUS-INT-08; 2016). NUS also hired the Project Director of UTown, who worked at UC Berkeley and Yale University in late 2007. Not only people but also several design firms from the US were hired for the project: NUS decided to utilise Skidmore, Owings

& Merrill's master plan for UTown, which was drafted for the PPP bid as a part of a consortium (ST3-NUS-INT-04, 2016; ST3-NUS-INT-08, 2016). SOM's design team was led by Marilyn Jordan Taylor, who also designed Columbia University's Manhattanville Master Plan (University of Pennsylvania School of Design, 2016). UTown was realised through people and firms from the US to realise Prof Shih's plan.

UTown is the case showing how the broader higher education sector reform process affected the production of space, which is distinguished from previous times. The university strategically brought experts in and out from Singapore to realise the project, but it could not proceed easily because the university did not have enough capital and land to implement the project. The university thus had to rely on government agendas and policies to proceed with the project. This led to the project being delayed and mobilised for other government agendas at the time. This is one of the important reasons why the project took more than ten years to be completed. Nevertheless, this does not mean that the idea and programme of UTown were swayed by the government. Even though the land became smaller than in the initial plan, the idea remains the same as the beginning: it has become 'Americanised' space to promote interaction among students and to attract international students to the university. Now the model is being replicated in other parts of the NUS campus and in other universities in Singapore.

7.2.2. NUS as a real estate developer

As discussed in the previous chapter, the endowment fund's investments in the property sector can be considered as a way that the university changes the urban environment. The motivation and strategies for operating the university endowment funds in Singapore are different from those in the US, since the government still has a substantial responsibility in financing higher education (Mok, 2005a). As one NUS investment officer mentioned, a small investment team of 20 people with no real estate development specialist can only perform a passive role in real

Figure 7-9 Overview of Interlace condominium



Source: Author taken in September 2016.

estate development projects (ST3-NUS-INN-04, 2016). Nevertheless, NUS can enjoy an opportunity to collaborate with other government-linked companies, which also can be related to the urbanisation strategy of the state.

Project background

This section will investigate Gillman Heights' collective sale and the following development of Interlace condominium. The 1,040-unit condominium was completed in 2013, four years after the collective sale of Gillman Heights. The Interlace received attention due to its bold design by OMA and Ole Scheeren (see Figure 7-9). The initial sale of the Interlace was launched in 2009, with an average price of S\$1,000 per square foot, which means that a 1,000-square-foot two-bedroom flat was sold for around S\$1 million. In March 2016, there were still 127 unsold units, accounting for 12.2 per cent of the entire condominium (*TODAY*, 2016).

The area was formerly occupied by British forces under colonial rule. Then, Gillman Heights was built in 1984 as a 607-unit HUDC (Housing and Urban Development Company) estate (see Figure 7-10). From 1975 to 1985, when private condominiums were rarer, the HUDC, a government-established private company, offered better-equipped housing options for middle-income households, who were earning more than the income ceiling to purchase HDB flats but could not afford private properties (Teo and Kong, 1997). The buyers could withdraw their savings from CPF (Central Provident Fund) contributions, which is the government pension scheme, to purchase an HUDC flat just like for an HDB flat. Shortly after the merger of the HUDC with the HDB in 1982, the HDB stopped building HUDC flats due to an increase in the income ceiling for purchasing HDB flats and the improved quality of HDB flats as well as the growth of the private property market (ibid.; Heo, 2014). The owners of HUDC flats were not able to enjoy the same privilege as private condominium owners since they did not own the strata titles,¹⁶ but as a part of privatisation and corporatisation trends of the government in the 1990s, HUDC estates were able to be privatised since 1995. Gillman Heights is one of the first two HUDC estates to be converted to strata-titled properties in November 1996, with more than 90 per cent agreement on privatisation (Lim, 1996). Then, the owners built a swimming pool and a clubhouse in 2001 to be like a private condominium by investing S\$3.5 million (*Straits Times*, 1999b).

NUS owned half of the units in Gillman Heights and managed them from 1985 until the estate was demolished in 2009. In the early 1980s, the university aimed to double the number of academic staff to 1,500, and recruit 75 per cent of new staff from abroad (*Business Times*, 1981b). In this regard, the university had to find places to accommodate them. The university perceived that 1,000 housing units were required and began to negotiate with the HUDC

¹⁶Strata titles are a common form of individual ownership of a residential unit in multi-unit private property such as condominium in Singapore based on the Land Titles (Strata) Act. The major difference between a strata-titled property condominium and an HDB flat is the ownership of common areas. The owner of a strata-titled property can enjoy the ownership of common areas as a form of share while being responsible for managing them.

Figure 7-10 A panoramic view of Gillman Heights before its completion in January 1984



Source: *Straits Times* (2014) © Singapore Press Holdings Limited. Reprinted with permission.

(ibid.). However, when the plan was revealed, it faced great opposition from citizens who had been on the waiting list to purchase HUDC flats so that the university had to reduce its plan. In the end, NUS was able to purchase 300 units in Gillman Heights and announced its plan to build 1,000 flats separately (*Straits Times*, 1981). At the time, the university was already suffering from a lack of staff housing. In December 1983, the university held around 700 housing units: 400 of them were rented from the HDB, and they were spread out in 30 locations from Clementi to Changi and Seletar (NUS, 1983). Gillman Heights was less than three kilometres away from NUS and had convenient access to the university through an express way. This was a favourable option for NUS. In 1985, the Ministry of Finance granted S\$80 million to NUS to purchase these units, and the university purchased 303 of them (*Straits Times*, 2001). From then until 1996, when Kent Vale, a 516-unit purpose-built faculty housing located right next to NUS Kent Ridge Campus, was opened, the university mainly used Gillman Heights as accommodation for foreign academic staff (*Straits Times*, 1996b). Eventually, the units were used for graduate student housing while some foreign staffs were still living there until the development of Interlace commenced.

En-bloc fever

Redevelopment has been a common practice in Singapore to increase the density of its limited land, and Gillman Heights went through a redevelopment process through an 'en-bloc' sale of the estate. 'En-bloc' is a term used in Singapore that refers a collective sale process of a strata-titled estate. The process was initiated when the URA began to release its Development Guide Plans in 1993 with an increase of plot ratios in some areas to promote an optimised use of the national territory. Then, the private property owners, who were living in an area with an increased plot ratio, discovered a new opportunity to sell their properties at much higher prices if they could sell them collectively to a private developer (*Straits Times*, 1997b). A newspaper article mentioned that en-bloc sale became 'a password for wealth' and the idea was spreading like wildfire (*ibid.*: 60). However, while some owners enjoyed at least a 50 per cent premium when they sold their properties collectively, en-bloc sales were difficult to make since all property owners in an estate had to agree unanimously to the collective sale. It was estimated only three tenths of en-bloc sales were successful in the mid-1990s (*Straits Times*, 1997c).

The low success rate of en-bloc sales led the government to relax the relevant regulations of en-bloc sales to promote more intensified land use. This low rate of success was believed to be have resulted from very few property owners who were opposed to collective sales, and it led the government to begin discussing the relaxation of the process in November 1997 (Singapore Parliament, 1997). As a result, the Land Titles (Strata) Act was amended in 1999. To briefly describe the major amendment of the act, for estates over ten years old, only the consent of 80 per cent of the owners was required for an en-bloc deal. 90 per cent was required for estates less than ten years old. Even though the en-bloc process can only be initiated by owners by forming a collective sale committee, the deregulation of the en-bloc process is a case where the state granted the right for citizens and developers to enforce a compulsory purchase (Chua, 2015; Haila, 2016). As a result, en-bloc sales became more active (Soh and Yuen, 2011). The success rate of en-bloc sales increased to 65 to 75 per cent in the mid-2000s (*Business Times*, 2007b).

The privatisation of HUDC estates offers the opportunity for en-bloc sales for their owners, and Gillman Heights was one of them that attempted an en-bloc sale. The 186-unit Amberville Estate was the first HUDC estate to go through an en-bloc sale, which happened in January 2006, followed by other HUDC estates. An en-bloc sale was attempted for Gillman Heights in February 2006, with the first endorsement of the collective sale agreement; then the agreed share quickly reached 82.43 per cent on 23 June 2006 (Strata Title Board, 2007). Because the estate welcomed its first owner in 1984, it was regarded that the estate required only the consent of 80 per cent of the owners to proceed with the en-bloc sale. The first sale attempt of the estate, with a price tag of S\$529 million, the highest asking price for an en-bloc sale at the time, failed in August 2006 because no bid was made (*Straits Times*, 2006). Then, CapitaLand, a government-linked property giant, signed a sale contract on 5 February 2007 by paying S\$548 million after having private negotiations (*Straits Times*, 2007a). Each owner was expected to receive S\$890,000 to S\$950,000 in compensation. NUS was expected to receive S\$250 million (*ibid.*). The application to the Strata Titles Board¹⁷ for sale approval was made on 3 May 2007, and it was expected that the process would be completed by the end of 2007 (CapitaLand, 2007; Strata Title Board, 2007).

As mentioned above, NUS owned 303 units in Gillman Heights, which accounted for 49.84 per cent of the total share. It means that the en-bloc sale could not proceed without NUS's consent to sell and NUS played an important role in selling the estate. NUS initially had no stance on the sale and assured owners not to cast its vote without the majority's consent, but when the agreement of the other owners reached a sufficient level to proceed with the sale, NUS cast its vote for it (*Straits Times*, 2008d, 2008e). NUS' decision was problematic to the minority owners, because when NUS' shares were excluded, less than 80 per cent of the owners had agreed to the sale (*Straits Times*, 2008e). When the collective sale agreement was

¹⁷ A Strata Titles Board is constituted under the Building Maintenance and Strata Management Act for validating en-bloc sales. The board consists of non-governmental professionals such as retired judges and property consultants.

made in June 2006, the rest of the owners had a 50.16 per cent of the share of the estate, and only the owners of 32.59 per cent of the share had agreed to the sale. This accounted for 65 per cent of the owners other than NUS. NUS could have waited until the number reached 80 per cent of the other owners but did not do so, which implies that NUS was in favour of the en-bloc sale. Some minority owners also argued that NUS even suggested to cut down the reserve price by 20 per cent in a letter sent to the sales committee on 16 May 2006, arguing that its price was too high to be sold (ST3-DEV-INN-01, 2016; *Straits Times*, 2008e). NUS' decision to sell the estate seems rather timely: the new staff and student accommodations were built or being planned, and the property market was booming right before the subprime mortgage crisis: in the first half of 2007, 109 estates were collectively sold, totalling more than S\$13 billion (*Straits Times*, 2007c).

Anti-en-bloc sellers and NUS' hidden linkage

Some owners living in Gillman Heights were unhappy with the decision to sell their homes, so they tried to resist, which eventually led to a 14-month-long lawsuit. The owners of 53 units first appealed to the Strata Titles Board as a part of the en-bloc process, since the board must resolve issues regarding the en-bloc process before the board confirms the sale (Strata Title Board, 2007). Some of the owners argued that its valuation was too low and that the regular notice of the consent level was not properly given, but the most controversial issue was the age of the estate (*ibid.*). The Section 84A(1) of the Land Titles (Strata) Act 1999 defined the age of the estate based on:

the date of the issue of the latest Temporary Occupation Permit¹⁸ on completion of any building comprised in the strata title plan or, if no Temporary Occupation Permit was issued, the date of the issue of the latest Certificate of Statutory Completion¹⁹ for

¹⁸ A Temporary Occupation Permit is issued when a building is ready for occupation (Ter, 2009).

¹⁹ A Certificate of Statutory Completion is issued when a building has fulfilled all the requirements of the Building Control Act as a completed building (Ter, 2009).

any building comprised in the strata title plan, whichever is the later. (Land Titles (Strata) Act, 1999)

The HUDC estates were public housing, so that neither Temporary Occupation Permits nor Certificates of Statutory Completion were issued when they were completed. In the case of Gillman Heights, the Temporary Occupation Permit was issued when its swimming pool and clubhouse was completed on 27 November 2002 while a Certificate of Statutory Completion of the estate was issued in October 2002 (Strata Titles Boards, 2007). In this regard, Gillman Heights could be considered an estate less than ten years old based on the act. Thus, the minority owners argued that the agreement was not valid. Nevertheless, the Strata Titles Board dismissed the appeals and validated the sale on 21 December 2007 (ibid.).

The subsequent lawsuit after the board's decision did not change the fate of minority owners. The decision of the board led 22 minority owners to make an appeal against it in the High Court on 16 January 2008 (*Straits Times*, 2008a). Previously, the Building Maintenance and Strata Management Act only allowed an appeal against the board's decision on points of law so that the minority owners asked to retroactively apply the section 84A(1) of the Act (Ter, 2008). Not surprisingly, the High Court dismissed the appeal on 25 June 2008 (*Straits Times*, 2008b). Then, the Court of Appeal also dismissed the second appeal of ten minority owners on 9 February 2009 by saying that the decision of the court was 'falsifying Parliament's intention' of facilitating en-bloc sales (Ter, 2009: 494). Even though the appeal was not accepted, such case clearly shows that Land Titles (Strata) Act had several problems. Through the appeal process of residents, the act was amended several times. One of the minority owners interviewed for this research argued that Gillman Heights was a testing ground of the government for en-bloc sales of HUDC estates because there were many loopholes in the Act, as shown above (ST3-DEV-INN-01, 2016).

NUS received attention again during the lawsuit because it was surprisingly revealed that NUS had become one of the investors purchasing the estate. On 16 May 2007, when the collective sale was being reviewed by the Strata Title Board, CapitaLand announced that HOTEL

Properties Ltd and *two private funds* took 50 per cent stake of Ankerite Pte, a subsidiary set up for the project by CapitaLand (*Straits Times*, 2007b). It was obviously not known at the time that NUS was one of the two private funds, but it was revealed 11 months later during the appeal process on 16 March 2008 that NUS holds 15 per cent share of Ankerite Pte, which was one of these funds (*TODAY*, 2008b). The sales review process of the Strata Titles Board includes a statutory declaration of interest and affiliation between the purchaser and owners as a procedural safeguard, and will reject the sale if the deal is not in good faith after considering the relationship between the purchaser and owners (Chen, 2008). Since NUS' purchase of the share was carried out after the application to the Strata Titles Board was made, and the NUS had no representative in the sales committee even though NUS once suggested to lower the reserve price, there seems to have been no problem with the deal. The High Court also dismissed the appeal by the minority owners regarding the bad faith of NUS (*Business Times*, 2008b). Meanwhile, the NUS initiated the architectural design competition of the 400-unit staff accommodation in Kent Vale in July 2007 (MKPL, n.d.; Singhal, 2013).

Gillman Heights is a case showing how NUS participates in the urbanisation process differentiating it from the previous eras. As mentioned by one of the NUS investment officers during an interview, its investment in Ankerite Pte may not be a typical case of what the NUS endowment fund is doing (ST3-NUS-INN-04, 2016). However, if there had not been a High Court appeal by the minority owners, NUS' investment in the development of Interlace condominium would never have been made known, which implies that there might be similar cases in which NUS has participated. NUS has been a 'right partner' of government-linked companies such as CapitaLand, as shown in the previous chapter.

This is our kampung

NUS investment was made without any unlawful act in the development process. Thus, there are seemingly no problems with this strategy and process. However, on the other hand, NUS as a public institution could have considered the side effects of its profit-seeking activity

carefully beforehand. Since the minority owners were not vulnerable citizens, they were not displaced like other marginalised groups in other societies through redevelopment processes, but the minority owners of Gillman Heights were a relatively powerless and less organised group against the state and property giants, as argued by a minority owner in an interview (ST3-DEV-INN-01, 2016). As a result of the process, they lost a sense of the community that Gillman Heights used to have. Such a sense of loss is also found among academic staff who lived in the estate. For example, in a letter to the *Straits Times* entitled 'It's our Kampung, Mr Lau', Dr Thomson expressed his sadness about the dissolution of the community (*Straits Times*, 2008c). One professor at NUS also recalled during an interview:

We were very happy to stay there. Certainly, we didn't want to move. [It] was a nice community. It was a lovely place. Kind of old-fashioned, but that was fine for us. We were really unhappy that we had to move because of the impact of the university on the community. By selling off Gillman Heights, it did break up the community. And [the] people had to be scattered around. They built another university condo as an extension of Kent Vale. So, you've got community there now. But certainly, I mean as a resident, I was sad, sad for us... because we had to move. We really liked that place as [did] many other people. (ST3-NUS-INT-06, 2016)

The opinions of the academic staff living there were also largely overlooked during the sales process, even though there was a strong academic community also there as the interview implies.

7.3. Comparative analysis of Yonsei University and NUS' recent development projects

7.3.1. Whither the entrepreneurial university in East Asia?

The previous chapter has focused on diversified aspects of urban and regional development related to the university since the mid-1990s. In this chapter, I have investigated the entrepreneurial character of Korean and Singaporean universities. The cases of Yonsei University Songdo Campus, NUS UTown, and Gillman Heights' redevelopment show the emerging entrepreneurial character of Korean and Singaporean universities, which is similar

to the concept of the 'entrepreneurial university' given by Clark (1998): while we can still see a limited presence of the state in materialising the development plan, the university takes more active role in expanding its territory. The university even dares to participate in a speculative property development project for its own sake. Several actors such as entrepreneurial mayors, local residents, and government-linked companies have worked with the university. Such trend also implies that an expansion project of a university in East Asia is still less likely to promote the role of the university as a knowledge producer, which is opposite what is suggested by most of the literature investigated in Chapter Two, such as Cooke (2002) and Etzkowitz and Leydesdorff (2000). Some projects actively employ rhetoric to justify their contribution to the knowledge-based economy, but most of the development projects investigated in previous and this chapter can be challenged regarding their actual contributions to the promotion of the knowledge-based economy, as argued by Harloe and Perry (2004).

In Korea, where private universities dominate the higher education sector, a development project of a university is more likely to end up as a real estate development project as shown in the case of Songdo. The new campus project was only able to be carried out under a strong coalition between the entrepreneurial mayor and the entrepreneurial university administration. Such coalition may be understood as growth machine-style politics, but there are difficulties in conceptualising the new campus project in that way because its assumption and the real dynamics are different. As mentioned in Chapter Two, the core idea of the growth machine is forming preconditions for accumulation and risk sharing supported by the state and finance capital (Molotch, 1976; Harvey, 1989). However, the case of Songdo Campus is more one of the mayor and the university extracting short-term gains in a speculative way. The opposition of the local council can be understood as their recognition that this coalition would have little long-term benefit to them while risk is granted to the city government. On the other hand, the developmental state is also barely observed: in Chapter Five, I showed the state's decentralisation attempt through the mobilisation of private universities. In Chapter Six, I showed that the state's deregulation policy of the capital region regulation. However, in the

case of Songdo, the central government delayed the development process but did not direct it. In this regard, it can be understood that Yonsei University was more like a land-based capitalist entity pursuing its material goals with other actors.

NUS also pursued its development projects more independently by engaging with different actors. Such a change is relatively new in Singapore, resulting from the process of corporatisation and self-governing. For the development of UTown, the university recruited various influential professionals to justify and secure the development projects. While various state interests intervened in the project, such as PPPs and the Youth Olympics, the university initiated, designed, and implemented the project with an entrepreneurial mind-set, which is similar to the idea of the hybridity of the developmental state and the neoliberal globalisation process as argued by Park and Lepawsky (2012). In the case of the redevelopment of Gillman Heights, NUS worked with CapitaLand, a government-linked company of Singapore, similar to the case of 16 Collyer Quay shown in the previous chapter. It also shows the entrepreneurial aspects of NUS, since the university was a key decision maker of the project as the major stakeholder. Such a process contrasts with the development process of Kent Ridge campus investigated in Chapter Five, which was conducted as a state project. As the university takes the initiative, legitimacy has become a less important issue in creating university space. In contrast to when Kent Ridge campus was created, UTown is designed to facilitate interaction among members of the university, and includes a large open space. This design was largely created by American-influenced academics and American architects and planners.

NUS' active involvement in the urbanisation process is, however, limited in Singapore. The Singaporean government has actively pursued overseas development projects such as Batamindo Industrial Park and China-Singapore Suzhou Industrial Park as a part of its 'regionalisation' strategy (Pereira, 2005; Phelps, 2007). The government agencies such as JTC Corporation and the Housing & Development Board (HDB) played a major role in supporting this government strategy to export the 'Singapore Model'. NUS has been also mobilised by the government to support this strategy. The agreement of the establishment of the National

University of Singapore (Suzhou) Research Institute was made in 2010 as witnessed by Singapore Prime Minister Lee Hsien Loong and the then Vice President of China, Xi Jinping (Suzhou Industrial Park Administrative Committee, 2010). The university also opened a joint research centre as well as a branch of NUS' business incubation programme Block 71 in the China-Singapore Suzhou Industrial Park. However, such a role can be only understood as passive: unlike other urbanisation agents in Singapore, like Surbana Jurong, which are actively exporting the Singapore model abroad, NUS is not ready to participate in an overseas campus development project yet and does not wish to do so (ST3-NUS-INT-05, 2016).

Overall, both universities have worked differently to pursue their development projects, but their entrepreneurial behaviours, as well as the results, are similar. Yonsei University Songdo Campus and NUS UTown are also symbolic spaces reflecting the emerging ideology of higher education, mainly based on the US model, as investigated above. The state also projected an entrepreneurial interest in the development process. For example, the NUS campus has been a testing ground for implementing new urban development strategies such as land use intensification and underground space development. Songdo campus was a pioneering case to open the first large-scale satellite campus in the 21st century in Korea. Former University President Jeong Kap-Young also mentioned that 'Songdo Campus is the space representing the developmental trajectory of Korea' (*Korea Economic Daily*, 2013: A4). I think this is an entirely appropriate comment because the project reflects diverse interests from different levels of the government and the university based on speculative property development, even though he did not mean to indicate this aspect. Now, these projects of Yonsei University and NUS are followed by other universities in Korea and Singapore. In this regard, there will be more universities conducting similar types of development projects in the future.

7.3.2. East Asian universities in the process of financialisation

The last question to ask in this chapter is whether the university has been financialised through the emergence of the flexible mode of accumulation. Based on the cases investigated in this

chapter, Korean and Singaporean universities more evidently participate in the secondary circuit of capital by conducting a series of large-scale development projects in a way which has not been observed in previous eras. Such a trend stresses the financialisation process of the university, especially because these projects tend not to be directly related to an intention to increase their revenues through knowledge rent. Both universities have pursued speculative profits by collaborating with other actors. Korean and Singaporean universities are considered not to be wealthy institutions. Thus, the support from other actors, mainly the government, was still essential to realise their projects, regardless of the universities' status as public or private. In this regard, the government also supports the financialisation of the universities.

However, the emergence of flexible accumulation cannot fully explain the financialised university in Korea. As investigated in the previous chapters, private universities in Korea have been land-based institutions from the beginning, and they have collaborated with other urbanisation actors such as *chaebol* groups. The major difference is the way in which the university justifies their development projects: the globalisation trend and competitiveness of the hosting city and the country are frequently mobilised in the rhetoric. However, the benefit to the local economy and local population can be questioned. For example, residential and commercial property development projects attached to Songdo Campus were only intended to secure profits to fund the construction cost of Songdo Campus. There is no further consideration to integrate the campus with the property development projects or with Songdo International City for bringing long-term benefits to the society. Such a fact shows the tendency of how the Korean university has been financialised in the urbanisation process: the reliance on the built environment continues.

Unlike Korea, the financialisation of the university is a more recent trend in Singapore. The university was highly controlled and regulated for supporting economic development and securing the legitimacy of the country as a part of the state. Such a concern is easily found in letters published in the *Straits Times*:

Has the administration lost touch with the main objective of the institution? Instead of spending the money to hire more lecturers and upgrade campus facilities, the university uses it to speculate in property! In 1997, NUS increased the school fees of students. If there is such a huge surplus, I question the need for the fee hike. (Gideon Ann, letter to the *Straits Times* 2000b: 58)

Does NUS have a clear investment policy for its funds and, if so, does that investment policy allow it to buy such a significant stake in a private company involved in property development? (Jennifer Ling, letter to the *Straits Times* 2008f: 41)

Readers keep asking the university to focus on its educational function. However, such concerns were not powerful to influence the emerging trend of financialisation. The university has become an active urbanisation actor with the support of the state since the late 1990s. Such a process is voluntarily conducted by the entrepreneurial university administration since the state still funds a large part of university operations in Singapore, even in the case of SMU, which is considered a private university.

The process of the financialisation of the university can be problematic for the university and its members. Yonsei University began to suffer from its high ratio of debt. The university's debt in 2016 was KRW 158 billion, which is the largest amount among all Korean universities (*Yonsei Chunchu*, 2016, 2017). The administration office admitted that the debt had resulted from several large-scale campus development projects (*ibid.*). The debt itself is also risky, but it can be more problematic because the threat can be easily transferred to students through increasing their tuition fees or sacrificing the quality of education. NUS might be less risky, because of its dependence on the state as mentioned above, but this does not mean such investment can be problematic. The endowment fund was partly derived from taxpayer money, since the government continued to provide matching funds. NUS reported net investment losses of S\$677 million one year after experiencing the subprime mortgage crisis (*Business Times*, 2009). In March 2016, after two years of its completion, more than 12 per cent of the total units of the Interlace condominium were still not yet sold, so the developer had to pay an

extension charge²⁰ to the government, which cost S\$2.7 million, covering 6 months (*TODAY*, 2016). Such losses resulting from speculative activities are likely to be transferred to students and citizens, as in the case of Yonsei University.

Summary

Based on the findings from Chapter Six, this chapter examined the cases of Yonsei University and NUS to show how and why their recent development projects have been conducted. In these cases, the entrepreneurial universities actively proceeded with the projects, collaborating with other stakeholders such as the state. The idea to promote a knowledge-based economy centred on the proposal of Songdo Campus and UTown, but it rather remains as rhetoric. Moreover, some projects are more intended to serve speculative and short-term interests. Such an atmosphere peaked right before the subprime mortgage crisis in 2008, as shown in Songdo Campus development and Gillman Heights redevelopment projects. These projects also imply the financialisation process of two universities: both are engaging in the property development projects for securing speculative profits.

The drivers of this shift and the state-university relationships were different. In the case of Songdo Campus, an entrepreneurial mayor played a key role in initiating the project while the role of central government was almost invisible. The case of NUS UTown was initiated by an entrepreneurial academic, but the government's support was crucial as the landlord and the financier of the project. Gillman Heights' redevelopment was initiated by profit-seeking individuals. Then, NUS engaged with a government-linked company to seek further profit.

²⁰ The Residential Property Act requires a developer with a foreign share to complete its residential development project within five years after purchasing a property and sell all the units within two years after its completion (*Straits Times*, 2015, 2016). If not, it must pay extension charges based on the proportion of unsold units. Such a scheme was designed to avoid speculative behaviours of a foreign entity, including land hoarding.

Nevertheless, despite different dynamics, in all cases, the entrepreneurial behaviours and financialisation elements of universities are evident.

As the last empirical chapter of this thesis, I showed how universities in Korea and Singapore have participated in the urbanisation process to provide more grounded understandings in relation to the previous chapter. Every case has a different background and process, but we can see clear entrepreneurial and financialised interests penetrating the universities in all cases. The next chapter will summarise the findings from the different empirical chapters to understand the development of East Asian universities in a broader time frame and draw conclusions based on these findings.

Chapter 8: Conclusion

8.1. Summary of arguments

8.1.1. Colonial legacies and the university

8.1.2. The developmental state-university relationship

8.1.3. Entrepreneurial universities in East Asian cities

8.2. Contributions of this research

8.3 Coda

This thesis examined historical development processes of East Asian universities and their relations to the state and cities to answer the research question: How and why does the university participate in urbanisation processes in different historical and geographical contexts such as in East Asia where there is a substantial presence of the state? My hypothesis was that the university has become a critical urbanisation actor in East Asian cities and that such a tendency can be well understood by the framework of the capital circulation process, accompanied by the concept of comparative urbanism. As suggested by Robinson (2002, 2011) and Shin et al. (2016), my research aimed to provide a more variegated and in-depth understanding of East Asian cities while resonating with other thoughts such as postcolonialism and urban studies. To do so, I set up my theoretical framework for this thesis with Harvey's (1978, 1982) capital circulation theory and theories of urban politics to investigate East Asian cities. I also attempted to link these theories to the East Asian context for providing an analytical framework. As the methodological concept for this research, I utilised a comparative case study approach. Such a strategy was useful to investigate cities in East Asia to overcome the problematic homogeneous conceptualisation of East Asian cities.

In relation to research findings, I showed that various interests and power dynamics existed in colonial Seoul and Singapore and how they were related to the establishment of universities and the urbanisation process of colonial cities. Regarding the relationship between the developmental state and the university, despite the conventional belief, evidence suggests that the developmental state was not always able to control the higher education sector, while it kept attempting to do so. Such findings show the diverse aspects of the East Asian developmental state. Then, this thesis traced how the developmental state and East Asian universities evolved under the neoliberal globalisation process. While neoliberal policies were observed in Korea and Singapore, their implications were different. However, despite such differences, I found that in both countries, universities have become more active urbanisation actors. The university is more actively negotiating with the state and private sector entities to achieve the physical expansion of the campus. Lastly, I investigated recent development

projects of two case study universities. Even though the rhetoric of the knowledge-based economy is centred in the debate related to the university, these large-scale urban development projects tend not to contribute to the promotion of the knowledge-based economy in their hosting regions and countries. While the state presence is being diminished, the development projects are serving universities' material interests.

For the rest of this chapter, I will combine findings from empirical chapters to discuss the following issues: 1) colonial legacies and the built environment, 2) the developmental state-university relationship, and 3) the emergence of the entrepreneurial university in East Asian cities, followed by concluding remarks.

8.1. Summary of arguments

8.1.1. Colonial legacies and the university

As suggested in Chapter Two, the understanding of colonial legacies is crucial to understanding the development trajectory of the East Asian developmental state (Kohli, 1994; Pei, 1998; Lee, 2010; Rowen, 1998), but how these legacies in East Asia were formed is under-researched. This research shows that there were various actors surrounding universities in East Asia under colonial rule, and their relationships were multi-faceted. In colonial Korea, the Japanese colonial government, local elites and Christian missionaries were key players. In Singapore, the British colonial government and wealthy Chinese immigrants were noticeable. In all cases, imperial powers played a main role because the university was an expensive institution to operate. Surplus value from different parts of the world were invested in universities. For the establishment of Raffle College in Singapore, European and Chinese trade firms as well as Japanese ones donated money to establish the university. The establishment of Chosen Christian College was led by American Christian missionaries and funded by American tycoons. Such a fact stresses the political function of the university. Colonial universities were established and operated as institutions to sustain the ideology of imperialism.

The university is a field of class struggle where various interests conflicted, as argued by Harvey (1982). In this regard, it was inevitable to face the clash between different colonial powers, which led to the closing down and downgrading of several higher educational institutions: Chosen Christian College and other mission schools in Korea were forcibly closed down and confiscated. In Singapore, Nanyang University was eventually merged with the University of Singapore in 1980. A similar reform was enacted in the case of Keijō Imperial University by the USAMGIK to eliminate the communist influence in schools and promote pro-American ideology after Korea's independence from Japan. Such political conflicts imply that the economic function was insignificant for colonial universities. Some exceptions were found in the case of Keijō Imperial University. The university was expected to contribute to the resource exploitation and militarisation of the colony. The reasons for such a difference can be found from the different colonial character of Korea and Singapore. Korea was an adjacent colony of Japan, where the population of the coloniser was much more significant than the other Western colonies. While law and order was the main concern of the colonial government in Singapore (Huff, 1994), more interests of the coloniser existed in colonial Seoul.

After independence, the state actively attempted to decolonise the university as a national institution to nurture citizens for the nation-building process, as Readings (1996) and Scott (2006) pointed out as an important function of the university. This process was much more successful in Singapore than in Korea, as investigated in Chapter Five. In Singapore, the elected Cabinet members led the reform of the higher education sector. Based on their legitimacy, the state effectively nationalised the university by decreasing the influence of foreign academics and banning communist influence. The economic function of the university was limited to nurture managers for low-skilled manufacturing industries and for supporting other relevant businesses. In Korea, the experience was different. The US military government had no expertise in Korea as well as in formulating higher education policies. In this regard, the USAMGIK had to collaborate with local elites educated either by missionaries or the

colonial power. Such a condition meant that decolonisation could not be conducted effectively: While American ideology was actively injected into society, large landowners established private universities to preserve their power and assets. The consequence of this inadequate reform can still be seen in Korean society.

Lastly, the legacies of colonialism and dependence on the imperial powers are still found in Korea and Singapore. As mentioned in Chapter Two, the Cold War was a critical factor for the developmental state to achieve rapid economic growth (Glassman and Choi, 2014; Woo-Cumings, 1998), but it is also directly related to the urban development process in Korea and Singapore as argued by Doucette and Park (2017). In Singapore, the withdrawal of the British military forces was a major challenge for the state because it accounted for a large portion of the national economy. The sudden withdrawal threatened to create a crisis in the country, and the Vietnam War was an effective alternative for the Singaporean economy. The removal of the British military forces also resulted in concern about the land: they occupied one-tenth of the national territory. Then, the state utilised the national university for the urban and economic development of the country by locating it in a former military base in the 1970s.

Such influence is still observed in Korea in the 2000s. The September 11 attacks in the US in 2001 eventually resulted in the restructuring of US military bases in Korea. Because these bases had been there over several decades, the relocation of military bases was a potential threat to the local economy of the municipalities where these bases were located. The countermeasure undertaken was similar to the one undertaken in Singapore in the 1970s, but the results were different. The central government allowed private universities to be located in the former military bases and adjacent areas, but only a few universities participated in the policy. The main reason for the failure was due to the conflict of interest among the different government bodies, as shown in Chapter Six. These cases show that geopolitics in East Asia has been influential in the urban and regional development process since the colonial era, and the university can be a lens to understanding these processes.

8.1.2. The developmental state-university relationship

The colonial legacies and the transition process to sovereignty are crucial to understanding the variegated nature of the East Asian developmental state. Due to its relationship with the Western powers, the Singaporean state actively sought advice from experts in the West. Dutch economist Albert Winsemius was known for his long-time role advising the economic development of Singapore. In the higher education sector, Frederick Dainton provided advice to support government decisions. Such dependence on the foreign experts continued, as shown in Chapter Six. The International Academic Advisory Panel (IAAP), composed of university presidents from foreign universities, was formed in 1997 and has been in operation until now. This dependence dates back to the colonial times, as shown in the case of the opening of Raffles College, Ngee Ann College, and Singapore Polytechnic in Chapter Four. The common practices embedded in British-educated politicians in the colonial period continued seamlessly until now. In this regard, the colonisation strategy of the British Empire was successful. The predictions of the experts from the West were often wrong, as shown in the case of Dainton's (1979) report, and were sometimes dismissed by the government, as shown in the fourth university proposal made by IAAP. Nevertheless, their presence gave the developmental state the legitimacy to implement various policies.

Korea experienced a much-complicated transition period, including sudden independence and the Korean War, followed by military coups. In this regard, the state-university relationship was more complicated. Several events were investigated in Chapter Four and Five. The collaboration between the USAMGIK and university professors and the land reform to protect the property assets of large landowners are the two examples. The founders of private universities were also influential bodies, and the university could provide the expertise and legitimacy that the ruling power needed. University professors were actively mobilised by the state for economic development and the ideological control of society. On the other hand, the university was a field of class struggle as mentioned above. The university was the centre of social and political movements under the military regimes and eventually led to a more

democratic regime. The military government kept trying to suppress the university, but such attempts were limited, due to the ties between the university and the military regime. Furthermore, the military regime could not overlook the public demand for higher education. The case of Korea shows the internal contradiction of the university in a capitalist society as an institution supported by the dominant class but serving the interest of the working class.

The university has been actively mobilised by the developmental state for regional and urban development. In Singapore, as discussed in Chapter Five the University of Singapore was relocated to Kent Ridge, a former British military base. Then other new universities such as the Singapore University of Technology and Design, the Singapore Management University, the Singapore Institute of Technology were also located on government-owned land. Except for Singapore Management University, most of them are located in peripheral areas. In a country where land is scarce, such decisions show that the state considered the university to be an anchor to vitalise the host area while contributing to the national economy. In the case of Korea, the state made a bold attempt in the late 1970s to utilise the university for a spatial restructuring of the country: along with the Capital Region Regulation, the government aimed to decentralise the capital region by the Satellite Campus Policy. The policy offered incentives to private universities to open their branch campuses in non-capital regions because the government believed that the university was one of the major factors causing congestion in the capital region. As investigated in Chapter Five, the policy could not achieve its original goal but nevertheless served the material interests of private universities. Again, this shows a complicated relationship between the developmental state and the university and questions the rational planning abilities of the developmental state. Regardless of its success, such attempts show how the developmental state tried to utilise the secondary circuit and the tertiary circuit of capital to accelerate the capital accumulation process.

The economic function of the university was rediscovered by the developmental state in the 1980s due to the emergence of the new economy. The government began to recognise the role of the university as a knowledge and innovation producer. Such a concept was more visible in

Singapore: from 1979, the state implemented a series of science park projects in an area next to the National University of Singapore, and then announced the technology corridor plan in 1991 to promote the area as a knowledge and innovation hub of Singapore. In Korea, similar ideas were also promoted. As mentioned in Chapter Five, Hanyang University opened its satellite campus in an industrial complex in the capital region in 1979. The government also constructed a large-scale science complex in Daedeok and located the newly established university, the Korea Advanced Institute of Science and Technology (KAIST), there in 1990. The university is believed to be an institution which can contribute to both the 'spatial fix' and 'technological fix' of the country (Harvey, 2001). By securing a competitive advantage through the university, the state aimed to attract production capital for cities, regions, and the country (Harvey, 1982).

Lastly, the neoliberal reform of the developmental state and its implications for the university need to be discussed. The neoliberal higher education policies have been introduced by the developmental state since the mid-1990s, focusing on the relaxation of existing regulations. Such changes were more voluntarily done by the state as preventive measures. They resulted in the rapid growth of the higher education sector in both countries and in the rapid expansion of the university space. However, there were more complicated drivers in these changes. As mentioned earlier, the deregulation of the Capital Region Regulation in Korea resulted from changes in US military security policy. The establishment of five new local universities and the abolishment of the Global Schoolhouse initiative in Singapore were related to the purpose of ensuring the state legitimacy due to the increasing public demand for higher education opportunities. Overall, control and freedom of the higher education sector have coexisted, producing a hybrid form of university governance while colonial and postcolonial legacies still persist.

8.1.3. Entrepreneurial universities in East Asian cities

As investigated in Chapter Seven, it is generally considered that the concept of entrepreneurial universities has emerged in Korea and Singapore since the late 1990s. However, as this research showed in previous chapters, the entrepreneurial university has a long history in East Asia, especially in Korea. As mentioned in Chapter Four, a large number of private universities in Korea were established by large landowners to protect their assets. Then, they operated like family businesses under the Private School Act of 1963. This nature of the university has caused many problems. There were an ample number of cases where the educational foundation misappropriated students' tuition fees. This misappropriation was frequently conducted in relation to construction activities, as shown in the cases of Kyung Hee University, Myongji University, and Chung-Ang University discussed in Chapter Five. In this regard, the private university in Korea was a financialised institution from its birth because the university was actively switching its profits into the built environment sector for 'profiting without producing'. The active investment of the university in the built environment can still be found as pointed out in Chapter Six.

In Singapore, because the university was strictly controlled by the state, the entrepreneurial behaviour is found to have emerged much later. When the state reformed the public sector under the PS21 initiative by privatising and corporatising government agencies from the late 1990s, the university was also asked to be more entrepreneurial. Considering that the Singaporean government agencies have been actively promoting urban development projects abroad under what is conceptualised as 'state capitalism' (Chua, 2016), the change of the university was delayed than other agencies. Then, the government aggressively pushed for the change of the university. As a result, the NUS accepted the US model of education and was corporatised by the government. The government also provided many incentives to grow the university's endowment fund. As a result, the NUS endowment fund has become the wealthiest one in Asia. The university has enjoyed the opportunity to collaborate with other government linked companies to invest their capital. Now corporatised interests are more visible in the

university campus through several new buildings in the campus, such as the Mochtar Riady Building and the Tahir Foundation Building (see Chapter Six). The university also invests in properties outside Singapore. While the entrepreneurial behaviours of the university have become more frequent, the relationship between the university and the built environment is also strengthened.

The case of Yonsei University Songdo campus shows the entrepreneurial behaviour of the university in Korea. From 2006 onward, Yonsei University conducted a new satellite campus project in Songdo International City, Incheon. The size of land for the campus was 61.6 hectares, equivalent to 64 per cent of the size of the university's main campus in Seoul. The university was able to open its first phase by only paying a minimum amount of land costs, as investigated in Chapter Seven. To implement the project, the university actively negotiated with other urbanisation actors to maximise the advantage by utilising its prestigious status. The behaviour of the university was entrepreneurial, and the financialisation of the university was also observed. The development of Songdo Campus was based on speculative profits through real estate development projects. The speculative aspect of the project is more evident when considering the relationship between the project and the knowledge-based economy. While the idea of the knowledge-based economy was frequently mentioned by local politicians and university administrators, the programme of the campus was largely irrelevant to the promotion of knowledge or innovation activities, since the Songdo campus was built for accommodating first-year students. The case of the Songdo campus shows that the relationship between the university and the property sector is not new, but the university has become a more active participant in speculative activities.

The case of the NUS shows how the university negotiates and collaborates with the state to achieve its physical growth and material benefits. UTown, the largest campus expansion of NUS next to Kent Ridge campus, was planned and implemented by entrepreneurial academics. The university needed to obtain the state's financial and procedural support for the project because the university was not financially able to conduct this large-scale expansion project

on the 19-hectare area of land. To realise the project, the university hired a former chief government planner to persuade the Cabinet. Then, once the government approved the project, the government tried to utilise the project to test several policies such as for PPP, land use intensification, and the mega-event. The case shows how interests of the university and the state intersect and make compromises with each other.

The redevelopment of Gillman Heights shows another aspect of the entrepreneurial university. The project was purely speculative, and the university was a key player to enable a 1,040-unit luxury condominium development project. The development project was led by one of the government-linked companies of Singapore, and the university was able to participate as a stakeholder. Several former residents have raised moral issues of the university because the university was both a seller and a buyer of the property for redevelopment. As Shin and Kim (2015) argued, the case of Gillman Heights' redevelopment shows how speculative urban development is still relevant to economic development in East Asia and how the state mediates this redevelopment process.

Lastly, these cases can be conceptualised through the growth machine theory. As discussed in Chapter Two, Harvey (1989) defined the growth machine in two ways: as collaborative speculation and risk sharing with state and financial capital. In three cases above, the state shared the risk with the university, but it is difficult to find shared long-term benefits for the state and other growth actors. In the case of Songdo campus, the project was conducted by a strong coalition between the entrepreneurial mayor and the university administration. However, such a coalition was more like a one-off effort because the long-term benefits of the project were unclear and the local council was against the project. The story of Gillman Heights' redevelopment is also similar. The university's risk was shared with others, but such relationship cannot be a long-term one. This is particularly because the university has been considered a public institution. Speculative behaviours of the university were continuously criticised by the public. In this regard, both the state and the university could not form a stable coalition for speculative investments in the long-term. Citizens already showed such concern

though their letters to the newspaper. Similar issues were pointed out by the central government in the case of Songdo campus as well.

8.2. Contributions of this research

This research contributes to the existing body of literature in several respects. Firstly, this research provides an overview of the long-term development trajectory of East Asian cities. While much literature focused on the East Asian developmental state and its transformation, this research allows us to gain insight into how the colonial legacies have affected the East Asian urbanisation process. There have been studies focusing on the colonial experiences of East Asian cities, but they did not extend their debates to the current state of East Asian cities. In this regard, this study lets us bridge the gap between these studies.

Secondly, this research contributes to the understanding of the colonial experience of East Asian cities. Colonial and postcolonial studies on cities have been actively conducted to date, but they have been largely focused on the experience of former European colonies. While such studies tend to generalise the experience of the peoples living under the European core powers, as this study shows, the experience of former Japanese colonies is distinguished from the European ones. There is also a limited number of studies focusing on former Japanese colonies, but virtually none of them compares diverse colonial settings. This research thus provides an understanding of different colonial experiences by comparing Singapore, a former British colony, and Korea, a former Japanese colony.

Thirdly, this research enhanced the understanding of the East Asian developmental state. A majority of studies on the developmental state have focused on economic development policies and their consequences. This study provides an alternative lens to understanding the East Asian developmental state by connecting higher education policies with urban and regional development policies. Unlike economic development, the higher education sector was a more grounded issue for the public. In this regard, this research showed that the content and outcome of the higher education policies and their relation to the urbanisation trends of the country

substantially differed among East Asian developmental states, which is different from the widespread belief.

Fourthly, this research contributes to the theory and practice of comparative urbanism. As mentioned in Chapter Three, how to design and conduct comparative urbanism is a challenge. This research utilises the university as a unit of comparison, which enables our understanding of different urbanisation processes across cities in the long term. Furthermore, by investigating cities in East Asia, this study also offers an alternative understanding of how different scalar influences from imperialism to local politics have interacted to shape the built environment of cities, an insight that other urban theories from the West have not adequately addressed.

Finally, the in-depth investigation of East Asian universities provides us with the basis to critically understand the recent changes in the region's universities and possibly their implications for the global higher education sector. As mentioned in the introduction, there are few studies promoting a critical understanding of these institutions despite their noticeable recent changes. In this regard, this research provides an outline of how they have been transformed by investigating their development projects. To do so, it also provides the opportunity to compare East Asian universities with their counterparts in other parts of the world.

Having summarised the contributions of this research to the scholarship, I am also aware of some limitations this study may present; that is, the generalisability of my findings. This research focuses on two East Asian cities: Seoul and Singapore. While these cities reflect the characteristics of each one's coloniser, the experiences of colonialism were different in each city. Even if cities share the colonial experience under the same colonial power, their actual experiences as colonies might differ too (e.g. Taipei versus Seoul). Furthermore, different kinds of universities have existed in Korea and Singapore, and such dynamics may also produce uneven experiences of university expansion in a country: for instance, the dynamics of university development may be different between those located in Seoul and others situated

in a non-capital region. Based on their divergent historical and geographical conditions, their positions in their host cities may differ.

Such limitations also suggest a call for further examination. Firstly, future research could compare universities in East Asia to universities in a different context, such as those located in former colonial powers such as Japan or the UK. Such a comparison could provide a richer understanding of cities and institutions, allowing the opportunity to test the legacies of colonial governance as well. Secondly, the research on other kinds of institutions located in the tertiary circuit could be conducted, and the findings from such research could be compared with the findings from this research. Here, an investigation into the activities of religious institutions or traditional cooperatives in Korea comes to mind, given their significance in the country's development trajectory. While much literature has focused on housing or large-scale urban development projects, the institutions in the tertiary circuit, and their roles in the urbanisation processes, have been under-researched and are in need of critical scholarship. Since they have played a significant role in social reproduction, an investigation of these institutions could also provide a more in-depth understanding of our society and of the state-society relations.

8.3 Coda

Challenges are ahead for universities in East Asia. While East Asian universities have benefited from rapid economic growth over past decades, East Asia is becoming an ageing society: it is expected that half of Korean universities will be closed within ten years. Singapore's situation is no different. To survive in this situation, competition among universities will be much more intense. The result will be an uneven development of universities and their cities while the elite institutions will enjoy their privileged status. In this process, the financialisation of the university is expected to accelerate in order to seek alternative sources of income. Their speculative behaviours may be more frequently observed.

As mentioned in the Introduction, this thesis aimed to provide an alternative understanding of the university. Without a critical understanding of the university itself, making real changes

will be difficult. To conclude this thesis, I would like to cite a quotation from the work of David Harvey, who urges us to work on altering the role of the university for social change:

We need new mental conceptions to understand the world. What might these be and who will produce them, given both the sociological and intellectual malaise that hangs over knowledge production more generally? The deeply entrenched mental conceptions associated with neoliberal theories and the neoliberalisation and corporatisation of the universities has played more than a trivial role in the production of the present crisis. For example, the whole question of what to do about the financial system, the banking sector, the state–finance nexus and the power of private property rights cannot be broached without going outside of the box of conventional thinking. For this to happen will require a revolution in thinking, in places as diverse as the universities, the media and government, as well as within the financial institutions themselves. – David Harvey (2010: 237)

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Appendix 1: List of Interviewees

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