

THE TRANSFORMATION OF KOREAN WIRELESS TELECOMMUNICATIONS POLICY:  
THE STATE, TRANSNATIONAL FORCES, BUSINESSES, AND NETWORKED USERS

BY

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DISSERTATION

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## ABSTRACT

This dissertation is a historical account of wireless telecommunications policy in South Korea (hereafter Korea). It investigates how wireless telecommunications policy in Korea was transformed from 1993 to 2013. This dissertation relies on historical methods and user interviews, and examines contextual factors that shaped Korean policy change. There are two main arguments in this dissertation. One is that the interactions between the forces of global neoliberalism, the Korean developmental state, and domestic capital shaped a hybrid type of wireless telecommunications policy regime which this research sees as the “neoliberal-developmental state.” The other is that online community culture gave rise to a new type of telecommunications user. This research calls them “networked users,” meaning users who are self-empowered in cyberspace and who are opposed to closed policies created by developmental goals and business interests.

This dissertation first examines major policy cases, including privatization, licensing, deregulation and research and development of wireless technologies in Korea. This dissertation identifies that the state was not a relatively passive victim of transnational capitalism. The state was instead either an active supporter of neoliberal globalization or acts as one of the major strategic actors in reshaping the national economy and wireless telecommunications industries within its borders. The findings in this dissertation call for rethinking the “powerless state” thesis in globalization studies and moving beyond the dichotomous discourses on Asian regional development under globalization: neoliberal convergence vs. the return of the developmental state.

This dissertation also examines the role of networked users during changes in mobile Internet standardization and wireless telephone numbering policy. This dissertation identifies that self-organized and self-informed users in online communities emerged as actors who influenced policy changes. Furthermore, in the case of wireless telephone numbering policy, networked users exhibited a new form of effective online democracy where online participation and legal mobilization for policy change were linked with each other. The findings in this dissertation call for rethinking the role of individual users in contributing to the open and democratic policy-making process.

*To my beautiful wife and lovely twins*

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## TABLE OF CONTENTS

LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
LIST OF ABBREVIATIONS.....	ix
CHAPTER 1: RETHINKING THE ROLE OF THE STATE AND USERS IN KOREAN WIRELESS TELECOMMUNICATIONS.....	1
CHAPTER 2: “GO GLOBAL”: ACTIVE ACCEPTANCE OF GLOBALIZATION AND POWER-SHIFT.....	23
CHAPTER 3: THE PARADOXICAL COEXISTENCE OF NEOLIBERAL AND DEVELOPMENTAL FEATURES.....	50
CHAPTER 4: THE INTENSIFICATION OF THE NEOLIBERAL REGIME UNDER THE CONSERVATIVE GOVERNMENT.....	84
CHAPTER 5: THE CHANGE IN WIRELESS STANDARDS POLICY AND NETWORKED USERS AS POLICY ACTORS.....	119
CHAPTER 6: THE BATTLE OVER TELEPHONE NUMBERS: THE CHANGE IN KOREAN WIRELESS NUMBER POLICY AND THE NETWORKED USERS.....	152
CHAPTER 7: CONCLUSIONS.....	189
TABLES AND FIGURES.....	206
BIBLIOGRAPHY.....	222

## LIST OF TABLES

Table 1. Evolving phases of state-capital relations and wireless telecommunications policies in Korea.....	22
Table 2. Primary telecommunications legislations and the functions of the MIC.....	206
Table 3. Reform measures in the corporate sector after the 1997 Korean economic crisis.....	207
Table 4. Progress in the privatization of Korea Telecom, 1987-2003.....	208
Table 5. Conflicting interests between stakeholders regarding IMT-2000 standards.....	209
Table 6. Foreign direct investments in Korea, 2001-2012.....	210
Table 7. Chronology of major processes for the Korea-US Free Trade Agreement.....	210
Table 8. The deregulation of media ownership in the 2009 revision of the Broadcasting Act.....	211
Table 9. Three fixed-mobile mergers and acquisitions under the conservative government.....	212
Table 10. Status of spectrum allocation among Korean wireless carriers.....	213
Table 11. Brief chronology of the licensing of the fourth mobile carrier.....	213
Table 12. Major R&D and standardization projects in the Korean wireless telecom industry.....	214
Table 13. Wireless Internet platforms before the development of WIPI.....	214
Table 14. Conflicting interests of players in the Korean wireless telecom industry.....	215
Table 15. The structure of telephone numbers, landlines and wireless in Korea.....	216
Table 16. Increasing numbers of wireless subscribers in Korea, 1997-2002.....	216
Table 17. Korea's telephone number system and assignments of prefixes.....	217
Table 18. Primary policy decisions for mobile identification numbers, 2002-2010.....	218
Table 19. 2G subscribers and transition rates to "010" in Korea .....	219
Table 20. A simple comparison of two regulatory agencies: the MIC and the KCC.....	220

**LIST OF FIGURES**

Figure 1. The Korean mobile network evolutionary paths during the early 2000s.....	221
Figure 2. Software architecture changes from middleware-centric to general OS-centric.....	221



## LIST OF ABBREVIATIONS

ADR	American Depositary Receipt
AEA	American Electronics Association
API	Application Program Interface
ARPU	Average Revenue Per User
ASEAN	Association of Southeast Asian Nations
ATSC	Advanced Television Systems Committee
BIS	Bank for International Settlements
BOK	Bank of Korea (Central Bank of South Korea)
CAGR	Compound Annual Growth Rate
CDMA	Code Division Multiple Access
CDMA EV-DO	Code Division Multiple Access Evolution, Data Optimized
CDMA EV-DV	Code Division Multiple Access Evolution, Data and Voice
CEO	Chief Executive Officer
DLP	Democratic Liberal Party
DMB	Digital Multimedia Broadcasting
DSL	Digital Subscriber Line
DTV	Digital TV
DVB-T	Digital Video Broadcasting-Terrestrial
EB	Exchangeable Bonds
EFTA	European Free Trade Association
ENTEL	Empresa Nacional de Telecomunicaciones
ETRI	Electronics and Telecommunications Research Institute
FDI	Foreign Direct Investment
FKI	Federation of Korean Industries
FSC	Financial Supervisory Commission
FSS	Financial Supervisory Service
FTA	Free Trade Agreement
FPLMTS	Future Public Land Mobile Telecommunications System
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Grand National Party
GSM	Global System for Mobile Communications
HMC	Hansol M.Com
HPi	High-speed Portable Internet
HSDPA	High-Speed Downlink Packet Access
HT	Hanaro Telecom

IBRD	International Bank for Reconstruction and Development
ICT	Information and Communication Technology
IDC	International Data Corporation
IEEE	Institute of Electrical and Electronics Engineers
IMF	International Monetary Fund
IMT-2000	International Mobile Telecommunications-2000
IPF	Informatization Promotion Fund
IPTV	Internet Protocol Television
ISD	Investor-State Dispute settlement
ISP	Internet Service Provider
IST	Internet Space Time
ITU	International Telecommunication Union
ITU-R	International Telecommunication Union – Radio communication sector
ITU-T	International Telecommunication Union – Telecommunication standardization sector
IWTD	Institute of Wireless Technology Development
KAMCO	Korea Asset Management Corporation
KBAI	Korean Board of Audit and Inspection
KBC	Korea Broadcasting Commission
KBS	Korean Broadcasting System
KCC	Korea Communications Commission
KCTU	Korean Confederation of Trade Unions
KDB	Korea Development Bank
KDI	Korea Development Institute
KEPCO	Korea Electric Power Corporation
KFSMB	Korean Federation of Small and Medium Businesses
KFTC	Korea Fair Trade Commission
KGCN	Korean Green Consumers Network
KIET	Korea Institute for Industrial Economics and Trade
KII	Korea Information Infrastructure
KIICA	Korea IT International Cooperation Agency
KISDI	Korea Information Society Development Institute
KITA	Korea International Trade Association
KMI	Korea Mobile Internet
KMT	Korea Mobile Telecom
KNSO	Korea National Statistical Office
KORUS FTA	Korea-US Free Trade Agreement
KOTA	Korea Telecommunications Operators Association
KT	Korea Telecom
KTCI	Korean Financial Telecommunications & Clearings Institute
KTF	Korea Telecom Freetel
KTLU	Korea Telecom Labor Union
KWISF	Korean Wireless Internet Standardization Forum
KYMCA	Korea Young Men's Christian Association

LAN	Local Area Network
LBS	Location-Based Service
LGT	LG Telecom
LTE	Long Term Evolution
M&A	Merger and Acquisition
MPAS	Ministry of Public Administration and Security
MBC	Munhwa Broadcasting Corporation
MCI	Ministry of Commerce and Industry
MCST	Ministry of Culture, Sports, and Tourism
MEPB	Ministry of the Economic Planning Board
MFAT	Ministry of Foreign Affairs and Trade
MFCS	Ministry on Future, Creativity, and Science
MIC	Ministry of Information and Communication
MIDP	Mobile Information Device Profile
MKE	Ministry of Knowledge Economy
MNP	Mobile Number Portability
MOC	Ministry of Communication
MOU	Memorandum of Understanding
MOFE	Ministry of Finance and Economics
MPSS	Mobile Platform Special Subcommittee
MVNO	Mobile Virtual Network Operator
MVoIP	Mobile Voice over Internet Protocol
NAFTA	North American Free Trade Agreement
NAPA	North American Numbering Plan
NEC	Nippon Electric Company
NIPA	National IT Industry Promotion Agency
NTS	National Tax Service
NTT Docomo	Nippon Telegraph & Telephone Corporation Docomo
NUMW	National Union of Media Workers
OECD	Organization for Economic Co-operation and Development
OHA	Open Handset Alliance
OS	Operating System
PCMR	People's Coalition for Media Reform
PCS	Personal Communications Service
POSCO	Pohang Iron and Steel Company
PTT	Post, Telegraph, and Telecommunications
R&D	Research and Development
RFID	Radio-Frequency Identification

SMT	Shinsegi Mobile Telecom
SKT	SK Telecom
STP	Signal Transfer Point
TDX	Time Division Exchanges
TDMA	Time Division Multiple Access
TD-CDMA	Time Division-Code Division Multiple Access
TD-SCDMA	Time Division-Synchronous Code Division Multiple Access
TIA	US Telecommunications Industry Associations
TPS	Triple Play Service
TTA	Telecommunications Technology Association
USTR	United States Trade Representative
VoIP	Voice over Internet Protocol
WAPI	Wireless LAN Authentication and Privacy Infrastructure
W-CDMA	Wideband Code Division Multiple Access
WiBro	Wireless Broadband
Wi-Fi	Wireless Fidelity
WiMax	Worldwide Interoperability for Microwave Access
WIPI	Wireless Internet Platform Interoperability
WTO	World Trade Organization
WTO/GATS	World Trade Organization/General Agreement on Trade in Services
WTO/TBT	World Trade Organization/Technical Barriers to Trade
ZTE	Zhongxing Telecommunication Equipment Corporation
2G	2 <sup>nd</sup> Generation
3G	3 <sup>rd</sup> Generation
3GPP	3 <sup>rd</sup> Generation Partnership Project
4G	4 <sup>th</sup> Generation

## **Chapter 1. Rethinking the role of the state and users in the Korean wireless telecommunications**

This dissertation is a historical account of wireless telecommunications policy in South Korea (hereafter Korea). It investigates how wireless telecommunications policy in Korea has been transformed since the late 1990s. It also examines how interactions between global forces, the state, businesses, and users impacted the change. There has been a great deal of research in both globalization studies and policy studies, but this research has primarily focused on the “powerless state” and the overarching influence of globalization. This dissertation argues that the nation-state and domestic capital took on a significant role in shaping their own telecommunications industry during the relentless process of neoliberal globalization. At the same time, this research suggests that the role of individual users in the telecommunications policy-making process, which has garnered little scholarly attention in policy studies, should be reconsidered.

### **1.1. Globalization, the state, business, and users in telecommunications policy**

Globalization has become a widely accepted concept since the late 20<sup>th</sup> century because it encompasses multiple forms of radical change in many areas of social life, particularly politics, economics, and culture. Globalization has yet to achieve a generally accepted definition because it is a multifaceted and ongoing phenomenon that can be interpreted in various ways depending on which aspects are emphasized. The meaning, extent, and logic of the phenomenon have been suggested in different forms through the lens used by neoliberal economists, critical scholars, postmodernists, and other scholars. However, there appears to be an emerging underlying consensus on how to understand globalization among different theories: globalization has a negative impact on state power or promotes the retreat of the nation-state.

Neoliberal economists often conceptualize globalization as a “desirable” form of economic integration in which technological innovation, including enhanced transportation and telecommunications, in conjunction with global entrepreneurship are the main forces driving globalization. Proponents of globalization have said that economic integration on a global scale will dismantle national capitalism, which has been characterized in terms of national institutional arrangements and industrial policies, and consequently bring about convergence into a single form of free-market capitalism (Fukuyama, 1992; Cable, 1995; Friedman, 1999; Friedman,

2005). The advocates of free market ideology claim that a largely unregulated capitalist system not only guarantees individual economic freedom but also optimizes economic performance (Hayek, 1944; Friedman, 1962). This belief system maintains that the scope of government must be limited and state power must be dispersed to market to reduce problems caused by state intervention. Neoliberal globalists predict the demise or retreat of state power as a byproduct of globalization, and expect unleashed markets to successfully fulfill the traditional functions of state power. Neoliberal advocates often postulate a negative view of the state in developing countries, depicting it as incompetent, corrupt, and inefficient (Mosley, et al., 1991).

Unlike the apostles of globalization, critical scholars have analyzed the nature of globalization and warned against its negative aspects. Critical scholars focus on a new global production and financial system that transcends national forms of capitalism, and see globalization as a novel phase in the currently evolving system of world capitalism driven by non-state actors. Sklair (2000; 2002) highlights transnational capital, the transnational capitalist class<sup>1</sup> and cultural elites as the primary agents of globalization, and assumes that state structures play no significant role in the global system. Robinson (2003; 2004) claims that the nature of globalization rests upon the transnational capitalist class' hegemony over national and local fractions of capital in most countries. However, he does partially acknowledge that national states are components of a larger "transnational state apparatus" that promotes globalization. The emphasis on transnational forces as a single agent of capitalistic globalization can lead to the neglect of the roles played by other actors such as the nation-state, local capital, and even citizens in the dynamic process of globalization.

Scholars using postmodern perspectives also conceptualize globalization as both the process and outcome of expanding global capitalism. However, unlike critical scholars, they do not postulate the existence of a key agent that promotes capitalistic globalization. Hardt and Negri (2000) see globalization as the reemergence of Empire, which differs from classical imperialism.<sup>2</sup> There is no center-periphery but rather a ubiquitous or amorphous power structure

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<sup>1</sup> In the theory of global capitalism, the transnational capitalist class is defined as a new class consisting of several social groups, each of which has their own vested interests in an expanding global capitalist system: the executives of transnational corporations, globalizing bureaucrats, politicians, and professionals, and consumerists elites in the media and the commercial sector (Sklair, 2000).

<sup>2</sup> Hardt and Negri (2000) are Italian autonomists who understand Empire as a new form of sovereignty "composed of a series of national and supranational organisms united under a single logic of rule" (p. xii). Their viewpoint is

similar to a network, which forces local states to affiliate or integrate into the new world order for survival purpose. Their analysis is that the nation-state has increasingly less power to regulate global flows of money, technology, labors, and goods, and impose its authority over the economy (p. xi). Castells' trilogy portrays globalization as the rise of new economy, where productivity is generated through global networks of interaction. Castells (1996) argues that the notion of transnational corporations as centralized structures, which drive globalization, is no longer valid and "should be replaced by the emergence of international networks of firms and of subunits of firms, as the basic organizational form of the informal and global economy" (pp. 206-207). His theory of network society depicts nation-states as powerless entities destined to fade away or to become nodes in a network, and will eventually surrender their sovereignty.

More particularly, some scholars see the state as increasingly powerless, or even obsolete, given globalization. Beck (1992; 2000) conceptualizes the rise of globalization as "second modernity," which is characterized by denationalization. He sees positive aspects in the idea of globality, in which closed and limited spaces such as nation-states are becoming illusory due to the growing political and economic influence of transnational actors. Beck's (1999) view is that the global risks such as ecological crises and the crash of global financial markets cannot be completely resolved by the state. Strange (1994) focuses on the "market-authority nexus" and argues that the global market has gained significant power in comparison with nation-states which are inflexible and limited to their geographic territories. In her book, *The Retreat of the State* (1996), Strange argues that the authority of all states has become diminished as a result of technological changes, global financial capitalism, and the integration of national economies into a global world economy. Kenichi Ohmae asserts in his two books, the *Borderless World* (1999) and *The End of the Nation State* (2000), that the nation-state is becoming obsolete because the nation-state is no longer the optimal unit for organizing economic activities within its borders due to the "borderless" regional and global economy.<sup>3</sup>

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that the sovereignty of the nation state was the fundamental basis of modern imperialism. However, globalization in the postmodern era "decentralizes" and "deterritorializes" the apparatus of rule so that no nation-state forms the center of an imperialist project. They actively adopt the Foucauldian perspective and argue that the object of the new rules, know as Empire, is social life, and it is not confined to economy and politics. Thus, the effective way to resist inequality is to rely on the autonomously constructed power of people, in their term, "Counter-Empire."

<sup>3</sup> Giddens (1999) triggered the debate regarding the role of the state and globalization by agreeing with the radical globalists' argument to the effect that "the era of the nation state is over" in the 1999 BBC Reith Lectures (p. 2). However, Giddens (1990) understands globalization as the outcome of the completion of modernization. His term

As noted above, many globalization theorists appear to forecast the dissolution of national boundaries, corporations, industries, and economies, after which everything will converge into transnational organizations beyond the reach of nation-state power. Ironically, both neoliberal hyper-globalists and leftist critics appear to advocate or, at least, accept the “withering away of the state” thesis. The thesis may be correct and plausible as a grand theory or discourse that seeks to address social change on the global level. National economies and the political domain have become increasingly complicated in the context of globalization. Thus, the changing environment may weaken the capacity of states or reduce their roles as drivers of social change in comparison with transnational forces. In the context of many globalization theories, the image of the state is not that of a decision-maker but rather a decision-taker. However, if we investigate certain cases on the national level in a detailed manner, the thesis does not always turn out to be true.

There are different viewpoints regarding the role of the state during the neoliberal globalization period. Stiglitz (2002) diagnoses that the sequencing and pace of globalization was neither fair nor appropriate, and neoliberal “reform” driven by transnational institutions such as the International Monetary Fund (IMF) created serious problems in many national economies. In comparing Latin America and East Asia, he emphasizes that the capability of the state to control capital within its borders was crucial for rescuing the national economy while confronting “ill-designed” neoliberal economic globalization. Weiss (1998) also argues that the capacities of states to engage in domestic transformative strategies influenced the successes of national economies under global capitalism, and the strength of external economic pressures was largely determined domestically.

Some critical scholars offer clearer viewpoints concerning the role of the state during the capitalistic globalization. Woods (2005) points out that the nation-state has been an “indispensable instrument in the process of spreading capitalist imperatives” to every corner of the world (p. 137). Her analytical viewpoint is that the greater the degree to which the globalizing tendencies of capitalism increased, the more likely the world was to become a world

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“late modernity” consists of the universalization of nation states as the political form, the domination of capitalism as the mode of production, Foucauldian surveillance by the state, and control of the means of violence by the state. Giddens (2000) argues that globalization is changing the role of the state, but the state will remain an important actor because the state can legitimately wield military force and is responsible for enforcing laws (p. 122).



of nation-states. Woods (2005) argues that, although the role of transnational corporations and various transnational institutions has been emphasized in explaining the spread of global capitalism, “there is little evidence that global capital is losing its dependence on national states” (p. 138). Harvey (2007) sees neoliberal globalization as being strongly associated with “the restoration or reconstruction of the power of economic elites” or “a political project to re-establish the conditions for capital accumulation” on a global scale (p. 19). His analysis of neoliberal globalization asserts that the state plays a central role in introducing and promoting neoliberal regimes within its borders. The state takes a significant role in transforming the national economy into more capitalistic structure by creating and preserving an institutional framework that meets the needs of both domestic and global capital.

Given this context, this dissertation takes a different stance against the perspective on globalization taken by many globalization theorists who neglect the role of the state. Many globalization theorists understand the state as lacking any choice, something which passively reacts to transnational forces or the new global order. In contrast with these views, this study takes the viewpoint of critical scholars such as Harvey, and argues that the state takes an important role in the context of regional circumstances although the role of the state fluctuates and changes depending on the political, economic, and social environment in which it operates. This does not argue that Korea has been immune to neoliberal globalization, which is characterized by open markets and the free flow of capital and labor and whose end result has been a high level of economic homogenization with respect to global capitalism. Korea is instead a model student who has actively integrated its national economy into the global capitalist system. This researcher’s investigation of wireless telecommunications policy changes in Korea since the late 1990s leads to the claim that the state is not a relatively passive victim of transnational capitalism, and is instead either an active supporter of neoliberal globalization or acts as one of the major strategic actors, along with transnational forces and domestic capital, in reshaping its national economy within its borders.

Why does this dissertation examine wireless telecommunications policy in Korea? Telecommunications is an essential component in the expansion of transnational capitalism, which functions as global conduit of virtual goods and capital flows. Schiller (2000) points out that the worldwide transition to market-driven telecommunications aims to provide “the production base and the control structure of an emerging digital capitalism.” (p. 37).

Telecommunications has thus been a significant domain in neoliberal globalization. It is the place where transnational forces push nation-states to liberalize their telecom markets, reduce state interventions in industry, and connect local networks to a global telecommunications network.

The state has a special relationship with telecommunications in several respects. First, telecommunications is a part of national infrastructure that is indispensable to the growth of the national economy (Röller & Waverman, 2001). It functions as a critical input during the production and delivery of goods and services in nearly every other industry sector. In addition, telecommunications is a vital component of national defense. National security concerns led to the development of a national telecommunications network that was closely tied to the military at the outset of telecommunications history as well as during the Internet era (Abbate, 2000; Headrick, 1991; John, 1995; Schiller, 2008; Winkler, 2008). Telecommunications is an essential tool for disaster relief. The state gave top priority to improving the reliability and resilience of the telecommunications infrastructure to be used during disasters within national borders. Telecommunications is often regarded as a basic function of the state, along with other essential networks such as roads, electricity and water. Public utilities are often state-owned and state-operated because they are essential for human survival as well as maintaining a sustainable society.

For these reasons, nation-states have not fully yielded to transnational forces and have attempted to maintain their interventionist power over their domestic telecommunication industry. For instance, some nation-states have set limits on foreign ownership in telecommunications due to concerns about national security while liberalizing their telecom markets. In addition, developing nations hope to retain their ability to intervene in the telecom industry. They use their telecommunications infrastructures and industries as a strategic tool for boosting national economic growth and social welfare.

Thus, telecommunications has been an important battlefield, where the interests of nation-states and transnational forces conflict to a greater extent than is the case for other domains of globalization. More particularly, wireless communications has been the fastest-growing and most profitable segment of the communications industry on both the global and national scale. The emergence and growth of wireless telecommunications occurred during the same period as the rise and diffusion of telecommunication liberalization worldwide. Wireless

communication recently became more important due to the rapid convergence of mobile and broadband. Investigating the changes in wireless telecommunications policies in a particular nation can uncover more of the nuanced and detailed dynamics between the state and global forces during the process of globalization.

Furthermore, Korea has topped a global list that ranked countries on the basis of their state-of-the-art broadband and wireless infrastructure, high level of Information and Communication Technology (ICT) access, usage and skills since the late 1990s. This success is often attributed to the active role played by the state, industry dynamics, and the unique online culture that exists in Korea. Examining wireless telecommunications policy in Korea provides a valuable case study for understanding complicated interactions between the state, global forces, domestic capital and other actors in the nation's telecom policy landscape, and more broadly, in global telecommunications.

This dissertation will also add users as possible actors in the telecommunications policy-making process along with the nation-state, global forces, and domestic capital. In telecommunications, users are both the consumers of services that network operators provide and are also the indispensable components of the network itself. Users are a significant factor influencing telecommunications policy changes. For instance, Schiller (1982) reveals that large business users of telecommunications services were a major driving force in bringing about US telecommunications liberalization. This is important work because it focused on the emergence of business users, who both brought about a power shift in the US telecom industry and later became transnational forces in global telecom liberalization. However, few studies have examined the influence of individual consumers on the telecommunications policy-making process to date. This dissertation examines how individual users, who network in online communities, participated in the policy-making process in a neoliberal policy landscape. It also examines how they interact with other actors such as the government and business players by providing case studies on mobile Internet standard policy and wireless number allocation policy in Korea.

## 1.2. The neoliberal developmental state and networked users

A variety of researchers have attempted to analyze Korea's political economy and industrial policy as a valuable case study for examining power-relations between state and

capital. Yet the inconstant trajectory of policy regimes in Korea led researchers to misread the nature of policy regime change and the role of state, domestic capital, and other actors. For instance, some scholars assert that Korea provides indisputable evidence of a powerless state that abandoned its developmental strategy and relinquished its heavy-handed market intervention after neoliberal globalization (Kim, 1999; Minns, 2001; Pirie, 2008). On the contrary, some scholars argue for “the return of the state,” in the sense that post-crisis Korea regained the power to reform the private sector and coordinate the interests of business players, while it generally conformed to the tenets of neoliberalism (Hundt, 2005). These different and contradictory interpretations regarding Korean political economy and policy come from researchers’ static analyses that focused on specific periods and policies. This dissertation pays a great deal of attention to the history of wireless telecommunications policy change without confining the scope of the research to a single period.

Furthermore, there have been unproductive dichotomous perspectives that have been used in attempts to understand Asian regional development under globalization. A popular viewpoint in political economy studies<sup>4</sup>, often referred as “the end of the developmental state” thesis, proposes that East Asian states have converged into a “neoliberal regulatory state” since the late 1980s (Haggard, 2000; Pang, 2000; Amyx, 2004; Jayasuriya, 2005; Pirie, 2005a; 2005b). It understands that nation-states in the region ceased traditionally strong intervention in markets and passively converged upon the neoliberal model of capitalism under the pressure of globalization. On the other hand, a different view posits that there has been a greater degree of continuity with the “developmental” past than substantial changes, despite neoliberal reforms (Hundt, 2005; Lee and Han, 2006; Thurbon and Weiss, 2006; Vogel, 2006; Walter 2006).

These views prevent us from acquiring a balanced understanding of power-relation change and developments both within the regional context and under global conditions. As regards Korean wireless telecommunications policy, the interactions between the government and the private sector have not been so simple that one can rely on a basic dichotomy: neoliberal convergence vs. the return of the developmental state. These two arguments share the assumption that the developmental state is incompatible with the neoliberal state. The proponents of the convergence thesis highlight an excessively big picture, that of economic homogenization

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<sup>4</sup> In this sentence, ‘political economy’ has a broader meaning, whose goal is to understand social changes and historical transformation from both critical and non-critical perspectives (See Moscow, 2009, pp. 2-6).

and isomorphic institutionalization under global capitalism, while neglecting regional particularity or the national context. They seem to equate developmentalism with protectionism or authoritarian control over the market. Meanwhile, the advocates of the state's return overemphasize the role of the state or the particularity of relations between actors within national borders, while neglecting the forces of larger social change.

However, the practices of the neoliberal state and the developmental state are not mutually contradictory, unlike their popular conceptions. The fundamental principle of neoliberalism is that a self-regulating market is superior to other modes of organization such as state intervention and, thus, governments should return to a minimal role along the lines of a "night-watchman state" (Hayek, 1944). This viewpoint is that the neoliberal state is theoretically unable to coexist with the notion of a developmental state, which is characterized by strong state intervention in the market. However, the practice of a "neoliberal state" is different than the theoretical notion. The neoliberal shift was made possible by the political power of state apparatus. Thus, according to Plant (2010), neoliberals sought to limit government but the practical result of their policies has often been a huge expansion in the power of the state. As the market acquired more freedom, the strong need for "re-regulation" emerged, ironically enough, in industries such as finance and telecommunications (Moran, 1991; Vogel, 1996). Schiller (2000) points out that continuous political intervention was paradoxically necessary to actualize something approaching a free-market regime in telecommunications (p. 2). The neoliberal drive required national authorities to establish new rules for industry, such as a competition policy for telecommunications, instead of eliminating state intervention from the market (Jordana & Levi-Faur, 2004).

The practices of developmental states are not necessarily incompatible with the practices of a neoliberal state. Developmental states were originally defined as "states whose politics have concentrated sufficient power, autonomy and capacity at the centre to shape, pursue and encourage the achievement of explicit developmental objectives, whether by establishing and promoting the conditions and direction of economic growth, or by organizing it directly, or a varying combination of both" (Leftwich, 1995, p. 401). In other words, the developmental state, a distinctive brand of capitalism often found in East Asia, is the embodiment of the kind of economic growth that should be prioritized and helps define the appropriate role of the state in the pursuit of economic growth (Thurbon, 2011). Thus, the specific features of a developmental

state that continuously change depend on the particular political economic environment that a country faces. As the free market system came to dominate the globe, old forms of development and state intervention were reconfigured. Developmental states facing neoliberal globalization become consistent with the new global system to the degree that they facilitated market competition, accepted the rules of free trade, and relied upon open export markets, while also becoming “actively interventionist in creating the infrastructures for a good business climate” (Harvey, 2007, p. 72).

It is necessary to look beyond this unproductive dichotomy in order to better understand both Asian regional development under globalization and the transformation of its telecommunications industry. A reconfigured or hybrid type of regime, where aspects of neoliberal economic model are integrated into the developmental state and where neoliberal features and developmental legacies co-exist or are embedded with each other, can be deemed a “neoliberal-developmental state<sup>5</sup>” (Liow, 2012). This dissertation traces the historical trajectory of wireless telecommunications policy by applying the concept of the neoliberal-developmental state. The framework of the neoliberal-developmental state has three main features in this dissertation. First, the neoliberal transformation of telecommunications industry is an ongoing project. Transnational forces continuously push nation-states to retreat from intervention in industry, which nation-states have long conducted for national development purposes. As new technological innovations continuously occur in telecommunications, the conflict between national and transnational interests reoccurs and revolves around emerging industries driven by new technologies. For instance, when the Korean government led the technological development of a wireless broadband platform standard (Wireless Internet Platform Interoperability, or WIPI), counter-pressure was brought to bear by the US government and US high-tech corporations, including Qualcomm and Sun Microsystems, and subsequent interactions between the state, transnational forces, and domestic businesses formed a different stage of the policy network surrounding the WIPI mandate.

Second, the role of the neoliberal developmental state as a facilitator varies depending on factors such as global economic change, domestic politics, and domestic business interests

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<sup>5</sup> Liow (2012) used the term, neoliberal-developmental state, in her case study of Singapore, and focused on labor policy and institutions. She used the concept, which is mainly affiliated with the Foucauldian understanding of neoliberalism (neoliberal governmentality), while the concept of neoliberal-developmental state used here involves the political economy perspective.

during different time periods. However, among political and economic variables, domestic politics are the most influential factors for deciding the contours of the telecommunications policy landscape, because external neoliberal pressures and internal business interests have not decreased but exist as a given condition. For instance, during the liberal government<sup>6</sup> period (1998-2008), the state took a leading role in initiating massive research and development projects in wireless telecommunications such as the International Mobile Telecommunications-2000 (IMT-2000) and the Wireless Broadband (WiBro). It pursued the nation's economic revitalization based on an IT-centric growth model and a Keynesian policy orientation. In comparison with other time periods, the liberal governments exhibited more developmental aspects, although conservative governments can also be regarded as having administered a neoliberal developmental state.

Third, the nature of a neoliberal developmental state involves support for domestic capital accumulation. The basic goal is boosting the national economy's competitiveness. State-business linkages with shared interests for development prioritize supply-centric or growth-oriented policies. In this situation, individual users of telecommunications services are apt to become alienated from policy, and are considered to be passive consumers who conform to government policies. Closed policy-making mechanisms, which mainly serve government developmental goals and business interests, bring about resistance from users. For instance, potential users who wanted to purchase the iPhone began to resist the government's WIPI standard mandate. Individual users who wanted to keep their wireless telephone numbers began to take a stand against the government's mobile number unification policy.

Individual users have usually been considered to be passive consumers or markets, and have generally not been regarded as actors in the telecommunications policy-making process. For this reason, the focus of analysis in telecommunications policy has been on political elites and business entities, although users have begun to appear at the center of technological innovation and social change in recent telecommunications debates (Hippel, 1998; 2005; Tuomi, 2003; Sandvig, 2011). In Korea, supplier-centric policies such as device subsidies and WIPI have promoted favorable conditions for telecommunications conglomerates. The rapid replacement of

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<sup>6</sup> This dissertation defines two governments, the Kim Dae-Jung government (1998-2003) and Roh Moo-Hyun government (2003-2008), as the "liberal government." Korean political history shows that these two governments are exceptional in the sense that, with these two exceptions, Korea has had a long-term "conservative" party regime supported by political elites, military forces, and capitalists (See Table 1).

mobile handsets, the high cost of devices and the high price of wireless service have provided businesses with both a proving ground for new technological innovations and an easy path for accumulating capital. The result was that Korean domestic conglomerates such as Samsung and LG rapidly grew into global mobile industry giants. Nonetheless, users have exerted a limited degree of influence on policy-making because they have not been organized.

The culture of new online communities allows scattered, discontented users to have a space where they can protest against telecommunications policy. A great deal of research on social movements demonstrates that new media environments such as the Internet can provide ordinary people who lack political power with new instruments to support their claims in cyberspace.<sup>7</sup> Citizens began using new media to develop a “bottom-up” democracy by creating forums for discussion and deliberation, and sites for mobilization and action (Hacker and Dijk, 2001; Beetham, 2005, pp. 150-5; Held, 2006, p. 250). In online communities, users produce and share their experiences, opinions, and knowledge. They have also organized themselves as potential actors who can impact the telecommunications policy-making process. This dissertation deems newly emerging online users who are self-informed and self-organized as being “networked users.” These networked users call for a more democratic telecommunications policy-making procedure that extends beyond the closed decision-making system in which developmentalist politicians/bureaucrats and neoliberal business elites have long predominated.

Telecommunications users have long been framed as mere consumers or as a passive market from the economic perspective (Livingstone & Lunt, 2012). However, networked users can be understood as a new form of policy actor who actively interacts with other policy actors and attempts to influence policy changes. Networked users actively link their arguments in online deliberations with their offline activities. Networked users mobilize via various channels. They petition the National Assembly and contact the mainstream media to raise their voices against the government. The emergence of networked users can reconfigure an existing policy network and complicate interactions among the state and business. More important, networked users in certain cases evolve into collectives that can mobilize the legal authority to change policies by filing administrative lawsuits and a constitutional petition. As a result, the emergence

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<sup>7</sup> Especially, research has been done about the Internet’s impacts on global social movements by studying representative events, including Zapatista movement in 1994 (Cleaver, 1998; Schulz, 1998; Olesen 2004) and the anti-WTO mobilizations in Seattle in late 1999 (Smith, 2001; Jordan & Talyor, 2004; Juris, 2008).



of networked users sometimes challenges the power of the state (or, at least, the power of regulatory agencies) by raising questions about the legitimacy of existing telecommunications policy.

### 1.3. Research Questions

Korea's wireless telecommunications has been transformed from a public monopoly to a market-based approach since the 1990s. This change in the Korean telecommunications landscape was a part of the trend toward neoliberal globalization that began in the 1980s. The neoliberal ideas and policy packages that drove the structural shifts in the telecommunications sector originated in the US and were diffused to the rest of the world (Hill, 1986; 2007, Schiller, 2000). It is clear that a series of privatization, liberalization, and deregulation initiatives restructured the contours of Korea's wireless telecommunications landscape just as occurred in other countries.

However, neoliberalization is not a one-shot project but rather an ongoing process in Korea. In addition to neoliberal packages such as the privatization of existing public telecom enterprises, new licensing of wireless services, and various deregulatory measures, national research and development projects for homegrown wireless technology continue to be designed and implemented on a large scale in Korea. In the neoliberal and developmental context, actors such as the state, transnational forces, domestic businesses and even users dynamically construct and dismantle the policy networks that surround wireless telecommunications policy.

The purpose of this dissertation is to examine the historical changes in Korea's wireless telecommunications policies from 1993 to 2013 by focusing on the changing interactions and power relations between actors in the policy field. This research addresses the following primary question:

. What has been the relationship between neoliberal globalization and the nation-state during this period of historic changes for Korea's wireless telecommunications policies?

The primary question leads to the following sub-questions:

. What was the role of the state in the development of wireless telecommunications policy, particularly in relationship to privatization, licensing, deregulation, and research and development?

- . What were the nature of interactions between transnational forces, the state, and domestic capital?
- . Is there a new role for the culture and voice of networked users in specific wireless telecommunications policy-making processes? If so, what is its form?

So far, there have been a number of studies of Korea's wireless telecommunications policy. These studies have valuable policy implications and offer considerable insights that can help researchers understand the issues that involve the Korean wireless telecom policy and industry. However, none of these studies provide a complete picture of the changes that occurred in wireless telecommunications from a holistic viewpoint. Most of the research provides isolated pieces of the puzzle, but not the complete picture that is needed to understand the historical changes in Korea's wireless telecommunications policy.<sup>8</sup>

Given that wireless telecommunications policies concerning spectrum allocation, competition, standards, and so on are closely interconnected with each other in the Korean context, studies that have focused on individual policies may not be helpful for understanding the changes in the policy regime as a whole. In addition, some studies have typically employed methods such as simple descriptions of technological change, market research, or economic simulations of a single policy. A critical and balanced perspective is necessary in order to understand the complete and complex picture of Korea's wireless telecommunications policies in the larger social context.

This dissertation thus mainly relies on a critical perspective in the tradition of the political economy of communications, combined with concepts from developmental state theory to grasp the shift in power relations and the role that actors played in the historic transformation of Korea's wireless telecommunications policy. For clarity, the scholarly literature will be reviewed in more detail in later chapters, as close as possible to the events that the literature seeks to explain. However, at this point it is useful to provide an introduction to the methods and sources of evidence that will be brought to bear on these research questions.

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<sup>8</sup> For instance, there has been a great deal of policy research on wireless standards (Jho, 2007; Lee & Oh, 2008; Chung, et al., 2011), competition regulation (Choi, et al, 2001, Song & Kim, 2001), spectrum licensing (Hwang & Yoon, 2009, Kwon, et al., 2010), technological innovation (Lee, et al., 2009), mobile handset subsidies (Kim, et al., 2004), and mobile virtual network providers (MVNO) (Kim & Seol, 2007), and so on.

#### 1.4. Methodology and Data

This dissertation is based on qualitative research methodology. Qualitative research methods can be used to better understand social phenomena about which little is yet known, and can also provide a comprehensive and in-depth understanding of topics about which a great deal has already been learned (Strauss & Corbin, 1990). In addition, qualitative research allows researchers to develop complex pictures of the problems being addressed. A holistic account in the qualitative research tradition involves reporting multiple perspectives, identifying multiple factors involved in a situation, and sketching the larger picture that emerges (Creswell, 2007, p. 39). Thus, qualitative research is useful for examining the research topic of this dissertation: complex mechanisms and contextual interplays between the state, capital, technology, and users in Korean's wireless telecommunications policy-making and the consequences of policy-making.

Qualitative research allows the investigator to explore the research theme in a comprehensive manner by gathering multiple sources of data such as archival data, interviews, and observations instead of relying on a single data source (Creswell, 2007). Qualitative methods mainly investigate the why and how of human behavior and social phenomena in an in-depth manner, so smaller but focused samples are often needed. This study relies on archival data and in-depth informant interviews.

The archival data in this dissertation comes from various sources: government documents in both Korea and the US, international organizations' documents, archival records, and news coverage. Documents play an explicit and important role in the data collection process when conducting a case study (Yin, 2009). First, this study mainly collected documentary information such as agendas, announcements, government strategy and other written reports of events that are closely related to privatization, licensing, spectrum auctions, national research and developments projects in Korean wireless telecommunications. These documents were produced by regulatory agencies such as the Ministry of Communications (MOC), the Ministry of Information and Communications (MIC), and the Korean Communications Commission (KCC) from 1988 to 2012. Second, this study also relies on documents from US government agencies such as the US Trade Representative (USTR) and international organizations such as the World Trade Organization (WTO), the Organization for Economic Co-operation and Development (OECD), the World Bank, the International Monetary Fund (IMF), and the International Telecommunication Union (ITU) in order to understand the global pressures surrounding both

the Korean national economy and wireless telecommunications. Third, this study also used archival records produced by the Korea Bank, the Korea Fair Trade Commission (KFTC), the Ministry of Finance and Economics (MOFE), the Korea National Statistical Office (KNSO), and the Financial Supervisory Service (FSS) in order to accurately describe the longitudinal trends in the Korean economy and the wireless industry, as well as the performance of conglomerates.

In-depth informant interviews were used to further map the different positions of major stakeholders who were, and remain, involved in Korean wireless telecommunications policy. In-depth interviews for this dissertation were conducted with three groups. First, officials of the KCC, a regulatory agency that manages both broadcasting and telecommunications, were interviewed in order to identify the goals and processes of policies and to understand the interactions with other actors in the policy-making process. The second group consists of corporate managers in wireless network operators including Korea Telecom (KT), SK Telecom (SKT), and LG Telecom (LGT). Third, lead users in two online communities were interviewed to identify the culture of user communities which surround the Korean wireless telecommunications. These groups are rare, so a combination of purposive and snowball sampling was used to identify them. They were recruited by means of e-mail contact. They were not offered compensation for participation. The interviews were conducted in Seoul from July to September 2012.

Interviews with policymakers and business executives are a standard and effective method that is often employed in telecommunications policy research. The key constraint when employing interviews is obtaining access to relevant informants. It was helpful to consult with local people who had connections to the population being studied. This researcher contacted former officials in the KCC and business experts in the Korean wireless industry using this researcher's work experience with Korea Telecom.<sup>9</sup> This researcher interviewed four government officials in the KCC who were, and remain, directly involved in establishing WIPI, the spectrum auction, and wireless number allocation policy. This researcher also completed interviews with four corporate managers who were, and remain, directly involved in the

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<sup>9</sup> The author of this dissertation worked for Korea Telecom as a business and network strategist for 8 years before starting his Ph.D program. Although this researcher has worked for KT, the views expressed in this dissertation are the views of this researcher, and do not represent the views of any other party.

introduction of the iPhone, WIPI, the termination of 2G, wireless number allocation, and the spectrum auction.

In contrast with interviews of policymakers, user interviews are a novel concept in telecommunications and a research method investigating users requires some explanation. In this study, this researcher interviewed five lead users from two online communities. Two points of contact were chosen to represent the types of users relevant to the wireless policies under consideration in this dissertation. The first point of contact for the user was Korea's largest iPhone user community (<http://cafe.naver.com/appleiphone>, 1.27 million members, as of July 2012). This community, known as *Asamo* in Korean, has been a venue for knowledge sharing, opinions, and collective purchases related to the iPhone since December 2006, three years before the Korean introduction of the iPhone. Users in this community exhibited critical attitudes toward the WIPI policy, and called for the abolition of the WIPI mandate by means of an online petition.

A second point of contact with users was an online user community that opposed the unification of mobile identification numbers to 010 (<http://cafe.naver.com/anti010>, 27,000 members, as of July 2012). In each community, lead users who had actively published their opinions concerning wireless telecommunication policies were interviewed in person. Different mobile identification numbers (or prefixes) such as 011, 016, 017, 018 and 019 have been used in Korea. Users receive these prefixes because regulators assigned these prefixes to each carrier before introducing 3G services. The KCC announced the mobile number unification policy in April 2011, and users who wanted to maintain their old prefix numbers were ineligible to subscribe to 3G services or use smartphones. In addition, these users were also excluded from the mobile carrier's subsidy of new phones unless they changed their prefixes to 010. For this reason, users in this community filed administrative litigation against the KCC and a constitutional petition against the policy.

In-depth and open-ended interviews were used for all three groups. In-depth refers to exploring a topic in detail in order to deepen the interviewer's knowledge of the topic, and open-ended refers to the fact that the interviewer is open to any and all relevant responses (Schensul, et. al., 1999; Johnson & Weller, 2002). This researcher employed an open-ended or narrative format of conversation in order to offer the participants the freedom to tell their stories while reducing intervention on the part of this researcher. This researcher chose this open-ended

interview format because it was anticipated be the best tool for sketching the dynamic process of conflicts and alliance among actors and for grasping the culture of users, considering the “authoritarian” cultural atmosphere of Korean society. All of the interview responses were audio-recorded and transcribed in Korean. The quotations that appear in this dissertation were translated into English by the author.

This dissertation employs a form of policy research that is both based on a historical approach and which also provides multiple case studies. First, this dissertation is an investigation of the recent history of Korea’s wireless telecommunications, and includes a particular focus on the ever-changing political and economic environments and major policies such as privatization, licensing, and research and development. The historical approach is a useful tool for understanding structural continuity and changes in power relations in the telecommunications policy field. This dissertation categorizes three major time periods for the purpose of clarifying political economic environments and the accompanying changes in related wireless telecommunications policy, depending on political regimes and global economic events (See Table 1). This research begins by analyzing the Kim Young-Sam government period (1993-1998), when the full-fledged neoliberalization of both the national economy and wireless telecommunications began. The research then moves on to the liberal government period (1998-2008), which followed the 1997 Asian economic crisis that reshaped the nation’s political economic landscape. The research examines how the corporatist state pushed a recovery strategy based on Keynesian policies and information-centric development model. Finally, the study examines the Lee Myung-Bak government period (2008-2013), when a strongly neoliberal political party returned to power at the time when the 2008 global financial crisis began.

Second, this dissertation provides two specific case studies for promoting the understanding of the emergence of networked users in the telecommunications policy landscape. One case study involves the case of WIPI policy, a national standard for the mobile Internet platform. This research analyzes the role of, and the interactions between, the government, global actors, domestic businesses and users, which surround the formation and removal of a *de jure* national standard for mobile broadband. The other is the case of wireless number unification policy. This dissertation examines the historical changes in the wireless number allocation policy, and includes a particular focus on the resistance from networked users who were discontented with a policy that primarily served the interests of business players.

## 1.5. Research Design and Chapter Overviews

As this dissertation is chronologically organized but also includes specific case studies that are described in additional detail, this summary will also identify the dates and list the specific policy cases included in each chapter. Chapters 2 through 4 employ historical and political economic methods and provide holistic context and evidence for the central concepts engaged in this dissertation. Chapters 5 and 6 rely more centrally on interviews and focus on specific case studies that test and elaborate the patterns developed in the preceding chapters. Each chapter will now be discussed briefly in turn:

Chapter 2 will rely primarily on historical methods and delineate the neoliberal transformation of wireless telecommunications under the Kim Young-Sam government (1993-1998) by examining three policy cases of interest. The chapter first focuses on investigating the four significant political economic environments which surrounded the transformation: increasing neoliberal pressure from the US government and international institutions, the change in domestic politics after democratization, the repression of the labor movement, and the growth of domestic capital power after financial liberalization. This chapter highlights three policy cases: (a) the process of licensing new cellular service providers, (b) the privatization of Korea Mobile Telecom (KMT), and (c) the research and development of Code Division Multiple Access (CDMA) technology. As regards these three policy cases, the chapter identifies how power relations between the state and domestic capital shifted and explains how the traditional developmental model changed during the process of wireless telecom liberalization.

Chapter 3 documents the political economy of Korea's wireless telecommunications under the liberal government (1998-2008), again employing historical and political economic methods. This chapter focuses on how Korea functioned as a neoliberal developmental state that adopted a Keynesian recovery strategy and an information-based growth model after being confronted with the 1997 Asian economic crisis. This chapter analyzes how the mixed characteristics of the Korean political economy shaped major wireless telecommunications policies. It also examines power relations in the policy-making process, and analyzes a selection of three policy cases: (a) the privatization of KT, (b) the R&D projects and the process of licensing the IMT-2000, and (c) the R&D projects and the process of licensing the Korean WiBro, the home-grown wireless broadband technology.

Chapter 4 is the last chapter that relies only on historical and political economic methods. It investigates the nature of the major changes in wireless telecommunications policy under the Lee Myung-Bak government (2008-2013). The chapter first analyzes the political and economic environments that surrounded Korea's wireless telecommunications from four perspectives: the return of conservative government with an intensified neoliberal policy orientation; the Korea-US Free Trade Agreement (FTA) and Korea's accelerated integration into the global economy; increasing corporate power and the rise of Korean IT-based transnational corporations; and the reorganization of regulatory agencies. The chapter then examines how political and economic changes affected major telecommunications policies by investigating three policy cases, including (a) the approval of M&A, (b) the introduction of spectrum allocation, and (c) the promotion of Mobile Virtual Network Operator (MVNO) service market.

Chapter 5 analyzes the interactions among actors in the policy landscape involved in mobile Internet platform standard policy. While it does use historical methods, it also includes material from interviews and the materials that users wrote in online forums. This chapter analyzes the underlying motivation of the Korean government in developing homegrown technology and standards. WIPI was a large-scale project that took more than ten years to culminate, and this chapter divides WIPI into two phases – the formation and collapse of WIPI – and analyzes the role of the state, transnational high-tech corporations such as Qualcomm, domestic players such as Samsung, and users. More particularly, this chapter will consider the iPhone import controversy that occurred from 2008 to 2009. The chapter analyzes the role of networked users, who wanted to use the iPhone and organized themselves into online communities during the removal of WIPI, and explains how networked users emerged as a political influence in the wireless telecom policy landscape.

Chapter 6 investigates the interactions among actors who were involved in the policy-making process for wireless number unification policy. Like the preceding chapter, this chapter relies on interview material. As was the case for WIPI, wireless number policy was also a long-term project, not a one-shot policy. This chapter documents the trajectory of wireless number policy, and highlights its inconsistent changes that were caused by both the policy goals of government and the interests of wireless carriers such as KT, SKT and LGT. More particularly, this chapter will consider the wireless telephone numbering controversy that occurred from 2008 to 2012. This chapter analyzes how and why networked users, who sought to keep their wireless



numbers, resisted the government and corporations. In addition, this chapter analyzes the impact of networked users' resistance against policy, and focuses on their interactions with the regulatory agency and business players.

Chapter 7 provides the conclusion, analyzes implications of this dissertation and suggests areas for further research.

Table 1. Evolving phases of state-capital relations and wireless telecommunications policies in Korea

Major Events	Entered WTO (1995)					
	The 1987 Democratization		The 1997 IMF Crisis		Final Completion of FTA (2010)	
Government	Chun Doo-Hwan (1980-88)	Roh Tae-Woo (1988-1993)	Kim Young-Sam (1993-1998)	Kim Dae-Jung (1998-2003)	Roh Moo-Hyun (2003-2008)	Lee Myung-Bak (2008-2013)
Regime	Military regimes		Civilian regimes			
Political Characteristic	Conservative			Liberal		Conservative
Phase	The developmental state		Neoliberal developmental state (N>D)	Neoliberal developmental state (N<D)		Neoliberal Developmental state (N>D)
Government Intervention	Strong (Strong Authoritarian)		Medium (Mixed)	Strong (Corporatist)		Medium (Weak Authoritarian)
Capital power	Medium (Growing)		Strong (Emerged)	Strong (Unabated)		Strong (Re-emerged)
Major polices in Wireless Telecom	Corporatization of KT & KMT	R&D of TDX Preparation for telecom liberalization	Privatization of KMT Licensing of cellular Licensing of PCS R&D of CDMA	Government-led R&D of synchronous IMT-2000 Licensing of IMT-2000 Private sector-led W-CDMA	IT839 developmental strategy Government-led R&D of WiBro Government-led R&D of WIPI	Consolidation of industry Spectrum auctions Deregulatory measures: MVNO, Pricing, the “fourth” wireless provider
Regulatory agency	MOC: Industrial promotion particularly in telecommunications sector		MIC: Focus more on telecom liberalization	MIC: Strong control tower for entire “IT” industrial promotion		KCC: neoliberal regulatory agency

## Chapter 2. “Go global”: Active acceptance of globalization and power-shift

This chapter will primarily rely on historical methods and investigate the neoliberal transformation of Korea’s wireless telecommunications under the Kim Young-Sam government (1993-1998) by examining three policy cases of interest. It focuses on the changes in the political economic environments, the role of the state, and shift in power between the state and domestic capital. Unlike the previous industrial structure and policy regime, which were based on a traditional model of the developmental state, Korea’s wireless telecommunications experienced fundamental changes during this time period. This chapter examines the major political economic changes in Korea and studies the crucial policy cases, including the licensing of new wireless providers, the privatization of KMT, the research and development of CDMA technology. This chapter argues that Korea’s wireless telecommunications was not an exception to neoliberal globalization, and also argues that the power in the industry began to shift from the state to domestic corporations. However, at the same time, the role of the state was not any less important than the interests of business players during the process.

### 2.1. Telecommunications within the context of neoliberal globalization

Since the 1970s, the world has witnessed a ferocious wave of systematic transformation in politics and economics. Ideologically, this global change was encouraged by neoliberalism, the notion that “human well-being can best be advanced by liberating individual entrepreneurial freedoms” (Harvey, 2007, p. 2). Political theorists and economists such as Hayek and Friedman introduced the justification for “competitive capitalism,” which features a free market and small government that acts in the capacity of a “night-watchman state.”<sup>10</sup> Their scholarly writings were welcomed by conservative politicians such as Reagan and Thatcher in the 1980s, and their idea became part of a neoliberal package of policies, political practices, and went on to become a global movement.

Communications and transport have always had crucial roles in facilitating the flow of capital (Harvey, 2010). The current state of global capitalism developed as a result of speeding

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<sup>10</sup> Friedman’s book *Capitalism and Freedom* (2002) contends that the scope of government must be limited and government power must be dispersed in order to maximize economic freedom. This is in line with a classical liberalist, Hayek. In *The Road to Serfdom* (1944), Hayek argued that state intervention is a threat to the optimal operation of the market and to individual freedom itself. Hayek thought that government should function as a minimalist night watchman state.

up the circulation of commodities and resources, and by reducing “the friction of distance” (Harvey, 1990). More specifically, the worldwide transition to market-driven telecommunications aims to provide “the production base and the control structure of an emerging digital capitalism” (Schiller, 2000, p. 37). The full scale and scope of development in global telecommunications networks and technologies occurred mainly to support the expansion of transnational capitalism (McChesney & Schiller, 2003). Given the significance of telecommunications to global capitalism, it is natural that telecommunications and the financial sector were core targets for liberalization.<sup>11</sup> The resulting privatization and deregulation rapidly opened the telecommunications market to competition.

Telecommunications liberalization first originated in the United States in the 1980s and was adopted by the rest of the world during the 1990s (Hills, 1986; Horwitz, 1989; Schiller, 2000; 2007). The driving forces behind telecommunications liberalization were mainly United States-based transnational corporations and the US government. These forces sought easy access to the global telecommunications market, a reduction of the influence of national sovereignty, and the development of a global telecommunications system to serve their interest (Schiller, 2007). International institutions such as the World Bank, ITU, General Agreement on Tariffs and Trade (GATT), and WTO mobilized to implement the liberalization of the telecommunications sector (Hills, 2007). In many countries, the result was the dismantling of the state monopoly based on the Post, Telegraph and Telecommunications (PTT) model<sup>12</sup> and the introduction of market competition. In the process, power in the telecom industry shifted from the state to capital and the emphasis switched from serving the public interest to serving business interests (Hills, 1986).

## 2.2. Diverse reactions towards telecommunications liberalization in a national context

Reaction to the tide of telecommunications liberalization emerged in diverse and dynamic ways. Each country followed a different path depending on its domestic political and economic

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<sup>11</sup> According to Vogel (1996), telecommunications liberalization was accompanied by financial deregulation in countries such as the United States, Great Britain, Japan, France, and Germany.

<sup>12</sup> The Post, telegraph and telecommunications (PTT) administration is a system in which a government agency provided monopoly telecommunication services as a public service. Prior to the importation of deregulation from the United States, most European, including Britain and France; South American; and Asian countries had their own unique PTT systems.

conditions. For instance, the British pluralist political system, unlike Germany's corporatist political system, actively responded to the growing demand for deregulation from corporate users (Duch, 1991). In contrast, in developing South American countries, the more centralized the power of government was to begin with, the more easily and forcefully that government reorganized its own telecommunications regime in a neoliberal fashion (Petrazzini, 1995).

Unlike other regions, telecommunications liberalization in East Asian developmental states exhibited a more restrained scope and a more protracted process due to their unique state-business alliances for the support of national development. Many developmental state theorists argue that the state functions as a catalyst or as a leading partner<sup>13</sup> with industry, which responds to the sorts of incentives and disincentives that states establish (Evans, 1995; Gold, 1986; Wade, 1990a; Weiss & Hobson, 1995; Woo-Cumings, 1999). This mechanism resulted in developing Asian countries not directly welcoming neoliberal pressure on their industries, including the telecommunications sector. They instead adjusted neoliberal policies to fit their national contexts.

As noted above, there have been a number of excellent scholarly political economy studies that have offered both a big picture and clues for understanding the neoliberal transformation of the telecommunications industry and policy. Nonetheless, little has said about the Korean case, particularly the wireless telecommunications sector. This chapter thus identifies major political and economic events which affected the transformation of the traditional telecommunications regime in Korea, the role of the state during the regime change, and the changing power relationship between the state and capital.

This chapter first illuminates several aspects of the environment surrounding during the transformation period: foreign pressures, domestic politics, domestic capital's strategy, and the labor movement. This chapter will then examine the most influential policy-making processes in the wireless telecommunications industry during the transformation period: the privatization of Korean Mobile Telecom (KMT), the licensing of new mobile service providers, and the development of Code Division Multiple Access (CDMA) technology. This chapter seeks to

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<sup>13</sup> The state's relationship to society in Northeast Asia has been variously described as: "embedded autonomy" (Evans, 1995), "governed interdependence" (Weiss & Hobson, 1995), "governing the market" (Wade, 1990), "dependent development" (Gold, 1986). Although this research covers a different time period and place, the most common argument has been that the developmental state has been a partner with business, and not a commander.

provide a historical account of the power shift in the early-stage Korean wireless telecommunications policy landscape, and is mainly drawn from archival sources such as government documents, newspapers<sup>14</sup>, and secondary literatures on the Korean wireless telecommunications policy.

### 2.3. Traditional telecom regime based on a developmental state model

In order to understand the structural power shift in Korea's wireless telecommunications industry, we should first examine the period between 1979 and 1987. During this period, Korea's goal was to both modernize its telecommunications infrastructure, which then lagged behind other industrialized countries, and to promote related industries by upgrading the infrastructure. Korea was then pursuing a form of rapid export-oriented industrialization with an emphasis on heavy and chemical industries. Korea's telecommunications infrastructure was insufficient to keep pace with the nation's economic growth during the 1970s. According to the ITU (2003), Korea had a market penetration rate of 0.36 fixed telephone lines per 100 inhabitants in the 1970s, barely one tenth of the world average at that time. Korea reached the world average market penetration rate in the early 1980s (pp. 1-3).

During the 1980s, Korea experienced a 'miraculous' achievement in its telecommunications sector. The slogan "one family, one telephone line" was used to describe the millions of new fixed telephony lines that were installed to solve the country's chronic shortage of telecommunications service. Government-led heavy investment facilitated the rapid expansion of telephone service. One exemplary case was the successful development and commercialization of Korea's first indigenous digital circuit-switch exchanger. This national R&D project, known as the Time Division Exchanges (TDX) project, allowed Korea to substitute its own product for the imported electronic switching systems from developed countries and accelerate its network upgrade for fixed line service (MOC, 1988b, pp. 25-33). According to government-led telecommunication development policy, Korea expected to evolve from a net importer of telecommunications equipment to a net exporter within a short period of

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<sup>14</sup> The researcher of this study collected newspaper articles mostly by using online databases of Korean newspaper such as *Chosun Ilbo*, *DongA Ilbo*, *Maeil Kyungje (Daily Economy)*, and so on. This researcher used the Naver Digital News Archive (NDNA) to find other newspaper articles. NDNA provides Korean news articles issued from 1960 until 1995.

time. By 1987, Korea experienced a \$500 million trade surplus in the telecommunications sector because it was exporting telephone equipment to other countries (MOC, 1989).

The key to the successful development of fixed line telecommunications in a short period of time was the strong government-led policy regime of that time period. In order to accomplish modernization and industrialization in telecommunications, a group of technocrats<sup>15</sup> in the military government established an interventionist telecommunications regime based on the “developmental state” model (Kim, 2000). The most noteworthy policy decision was the corporatization of telecommunications services in 1980. Corporatization is usually understood to mean the process of transforming government organizations into state-owned corporations in order to introduce corporate and business management techniques into their administrations. During the 1980s, telecommunications strategies in most countries were situated somewhere between the US, British, and Japanese market ideologies and French statist policies, meaning a rapid deconstruction of PTT by means of full privatization, or an increase in the role of government by means of vertical nationalization (Noam & Kramer, 1994, pp. 2-3). Interestingly, Korea instituted a hybrid strategy for the purpose of restructuring its PTT system. The traditional PTT system was split into postal and telecommunications bodies in 1981. Only the telecommunications was then managed as a public enterprise. Detaching Korea Telecom (KT) from the government allowed the state to both finance its network modernization program in a more efficient manner and also reduce Korea’s financial dependence on foreign investments. Accomplishing this required KT to issue telecommunications bonds. The result was that increased telephony rates several times in the early 1980s.

These changes were highly effective means of accomplishing government policy goals. The ratio of domestic funds as a percentage of total investment in the telecommunications infrastructure expanded from 48.4% in 1980 to 66.1% in 1984, and the ratio of foreign loans decreased from 21.9% to 7.9% of total investments (MOC, 1988b, p.105). In addition, unlike a direct privatization scenario, the government could easily control KT, which was a public enterprise, because of its stock ownership. The government forced KT to fund a state-run research institute - the Electronics and Telecommunications Research Institute (ETRI) - a large-

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<sup>15</sup> Kim argues that the structural, or holistic approach, which emphasizes the role of the state, is inappropriate for explaining the process of establishing the traditional telecommunication system during the 1980s. He favors the elite approach, and pays more attention to the role of technocrats such as Oh Myeong, the Minister of Communication from 1981 to 1987.

scale research project intended to develop new telecommunications services and equipment technologies.

In 1984, Korea applied the government-led development model to its burgeoning wireless telecommunications industry, expecting to reproduce the early success of the fixed-line telephone. The government established Korea Mobile Telecom (KMT), a monopolistic wireless service provider under the wing of KT. The company's cellular service was expected to drive a lucrative market, the so-called "the goose that lays the golden eggs." The company met these expectations. Before it was privatized in 1994, KMT had 70% annual growth for ten consecutive years. The Ministry of Communication (MOC), the telecommunications regulatory agency, established a long-term plan for boosting the mobile service and device industries and coordinated the entire process.<sup>16</sup> Public enterprises such as KMT built the wireless infrastructure and operated the wireless telephone service. ETRI developed related technologies and provided them to private device-makers using funds from KMT. Samsung, LG and Hyundai were the main wireless device manufacturers that chose to utilize these technologies. This alliance for development and "virtuous circles"<sup>17</sup> within the telecommunications industry resulted from the government taking crucial actions while private corporations appeared to be acting as passive beneficiaries.

In conclusion, Korea succeeded in developing its own style of telecommunications policy regime during the 1980s and began applying it to wireless telecommunications. Korea's success in developing its fixed line telecommunications industry was mainly the result of the Korean government maintaining its autonomy or power in the policy-making process. Chang (2002) illuminates that developed capitalist countries often attempt to "kick away the ladder" in order to prevent developing countries from adopting protectionist policies and institutions that they themselves had used to promote their own earlier economic growth, which the United States did during the late 18<sup>th</sup> and early 19<sup>th</sup> centuries. Had telecommunication liberalization been fully adopted during the 1980s, Korea might have both failed to develop its telecommunications

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<sup>16</sup> The MOC technocrats were strongly nationalistic. They often indicated that their main goal was "the creation of the most developed IT nation in the world" in their 5-year plan.

<sup>17</sup> A virtuous circle is an economic term that is frequently used to explain the positive feedback loop of economic growth. For instance, in the Korean telecommunications industry, a complex chain of events, including the development of the information infrastructure, the growth of the telecommunication service sector, the growth of the equipments manufacturing sector, and the increase in exports, are constituent parts of a self-reinforcing feedback circle for economic growth (See p. 63 and p. 70 in Chapter 3).



services and equipment industry and also failed to accumulate indigenous telecommunications technology.

#### 2.4. Changing environments of wireless telecommunications

However, the political economy surrounding Korea's telecommunications industry has rapidly changed since the late 1980s. Neoliberal pressure from the US and international institutions triggered the change. Domestic capital increased its power and began to liberate itself from state control. More crucially, the "democratic" government which had taken power away from the military regime, actively accepted neoliberal globalization and created favorable conditions for businesses by means such as repressing the labor movement.

##### *2.4.1. Neoliberal pressure from the US and international institutions*

The challenge to the interventionist Korean telecommunications regime initially emerged from outside the system. In the late 1980s, the Korean government faced increasing US and international pressure to open its markets.<sup>18</sup> After the US market was liberalized in 1984, the US trade deficit with Korea in the US telecommunications equipment market increased rapidly<sup>19</sup> (ART, 1991, p. 58). The consequence was that initial pressure was focused on the telecommunications equipment markets. However, these efforts expanded to include the entire Korean telecommunications service market in February 1989, when the United States government passed the Omnibus Trade Act of 1988. This act designated Korea as a "Priority Foreign Country (PFC)" and established legal grounds for retaliation by the U.S government against countries that exhibited a lukewarm attitude toward opening their markets (Bayard & Elliot, 1994).

The Act's telecommunications provisions provided a basis for US requests for Korea to liberalize its telecommunications markets through a series of bilateral negotiations (Larson, 1995, p. 14). Korea's one-legged dependence on exports made it particularly vulnerable to pressure from the United States, its largest trade partner at that time. In addition, the end of an

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<sup>18</sup> *Maeil Kyungje*, 28 January 1988. James Lilley, the US ambassador, argued in his address to the Federation of Korean Industries, "Given its economic growth and position as one of the major international traders, Korea should share the responsibility for the development of the world economy." According to Cummings (2005), Lilley had already been dispatched as a CIA officer to Seoul by the Reagan administration and later served as the US ambassador to Korea.

<sup>19</sup> Korea had a trade surplus of \$0.4 billion with the United States in the telecom device market in 1988. The amount was the second largest surplus, an amount exceeded only by Japan's surplus.

economic boom driven by cheap oil imports, a low won-to-dollar exchange rate, and low interest rates had intensified concerns about an imminent economic crisis by late 1988. The United States and Korea finally reached an agreement on most of the controversial issues after five rounds of negotiations in 1989 and 1990.<sup>20</sup>

Two of the agreed-upon measures, such as procurement and standardization, dealt fatal blows to the traditional telecommunications regime. One result of the agreement was that the Korean government was required to treat US companies in a non-discriminatory manner during the process of procuring telecommunications equipment. It was also required to refrain from mandating specific technology protocols and to provide foreign governments and companies with opportunities to express their opinions during the process of domestic standardization (MOC, 1990a). The result affected one of the core elements of the traditional regime. This meant that the strong tie between the MOC, KT, and domestic equipment makers could be broken.

The GATT and the WTO stipulated that a neoliberal international regime was expected to establish rules ensuring free competition based on opening up monopolistic telecom services to the market (KIET, 1996). Given the United States' aggressive pressure toward a free trade regime, telecommunications policymakers in Korea could not help but rethink their existing telecommunications regime and invite market competition into the telecommunications service sector. The technocrats of telecommunications policy realized the need to understand the changes in international circumstances and reflect those changes in their policy. It is noteworthy that the MOC dispatched a secretary to the International Telecommunication Union (ITU) for the first time in 1989, and that Korea was also appointed to the governing board of the Plenipotentiary Conference at Nice, France in 1989 (MOC, 1988a, pp. 259–266).

#### *2.4.2. Democratization and the rise of neoliberal developmental state*

During 1987–1997, the domestic political environment changed dramatically, and transitioned from a military dictatorship to a civilian democracy.<sup>21</sup> The June 1987 movement was led by dissident students, supported by the citizenry, and triggered the collapse of the 30-year military dictatorship. In 1987, Tae-Woo Roh was elected as the new president of Korea. After this change, companies and citizens expected more autonomy in their economic activities and

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<sup>20</sup> See *DongA Ilbo*, "The telecommunication market will be opened in July," 16 February 1990.

<sup>21</sup> This dissertation defines the Roh Tae-Woo government (1987-1993) as a military regime (See Table 1).

more participation in the political sphere. However, as Bruce Cumings (2005) points out, the political system under Roh was by no means a civilian regime; the military coexisted with the ruling bloc and exercised veto power over opposition groups. The “partial democratization” that occurred in Korea proceeded without the dismantling of the repressive state structure (p. 349). The Roh government did as the former military regime had done, and attempted to maintain an emphasis on universal service with regard to telecom services while focusing on promoting economic growth through protectionism (Hwang, 1993, p. 8). The technocrats were proud of their accomplishments in promoting the landline telephone industry, and continued to express a willingness to reinforce the use of traditional policy principles and tools (MOC, 1988b).

More drastic political change occurred in 1993. After winning the presidential election in 1993, Young-Sam Kim, the first civilian President, removed the power elite in the army from the government, finally retiring the military to the barracks. Many respected scholars and former dissidents joined the Kim government’s new cabinet (Cumings, 2005, p. 395). Most of the members of the new higher echelons of government had been educated in the United States and expressed strong neoliberal tendencies regarding public policy. Government elites shared the belief that continued active integration into the global economy was essential for sustaining Korea’s economic growth. Young-Sam Kim’s inaugural speech emphasized the free market and competition as one of the three core national agendas for the future. The President’s speech illustrated the priority given to a particular political agenda under the new government:

“The next thing we should do is to strengthen our economic vitality. To achieve this, the government should guarantee the autonomy of the market and encourage our companies to enhance their international competitiveness, instead of regulating and protecting them. The government will respect the creativity of the private sector. The government will reduce its budget and save money... This is the new economy that I now propose.”<sup>22</sup>

Given this background, the Kim government adopted the “*seggyehwa*” strategy as its top-priority political agenda. *Seggyehwa* is the Korean word for globalization. The Korean state attempted a top-down reform of the Korean political economy in order to cope with the rapidly changing conditions of global capitalism. The government set up the Globalization Promotion Committee, actively accepted neoliberal ideas and policy packages as “global standards” and began implementing reforms in the government’s administrative structure as well as education,

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<sup>22</sup> See *Maeil Kyungje*, “President Kim Young Sam’s Inaugural speech,” 25 February 1993.

economic, science and technology sectors. The globalization drive of the Kim government was often deprecated as no more than a “political slogan” (Kang, 2000) and was criticized as a failure (Kim, 2000). It is true that Korea’s globalization drive was initiated by the state. The government’s globalization drive shaped powerful conditions on the nation’s economic and industrial policies including wireless telecommunications policy. In the post-Cold War era, neoliberal globalization was considered by Korean politicians to be a major type of external pressure. The active acceptance of globalization, or *segye-wha*, reflects an “instrumentalist treatment of globalization.” In other words, the strategic approach sees globalization as an opportunity to boost the nation’s economic development and a means of obtaining a competitive edge against other developing countries (Shin, 2003, p.11).

Most noteworthy is the fact that the Kim government finally decided to join the Organization for Economic Co-operation and Development (OECD) in 1993. W. Michael Blumenthal, US treasury secretary in the Carter administration, first mentioned the need for Korea to join the OECD in 1978 (Kim, 1991). The Korean government delayed joining the organization for a number of years because participation meant that Korea would have to restructure its economic institutions, norms and rules so that they would be in accord with free market ideology. Deregulation and liberalization in capital markets and major service markets were anticipated to be accompanied by participation in the OECD, which was a condition for membership (Shin & Chang, 2003, p. 70). Korea finally agreed to join the OECD during the Uruguay Round in December 1993, and this decision increased Korea’s need to liberalize wireless telecommunications market.

Globalization is a detrimental challenge to developing countries in the sense that it pushes them to abandon “catch-up strategies” founded on strong government autonomy or leadership. Korea as a developmental state succeeded in growing related industries and accumulating core technologies by pursuing huge national R&D projects in the telecommunications sector. Maintaining this successful developmental model meant that Korea needed a “control tower”<sup>23</sup> to manage conflicting domestic and foreign pressures. The result was that the Kim government established the Ministry of Information and Communication (MIC) as a telecommunication regulatory agency in December 1994. The MIC began with extended

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<sup>23</sup> In the context of the Korean telecom industry and policy, the term, “IT control tower,” often refers to the MIC that oversees and strengthens policy coordination that promotes the development of the IT industry.

authority over the regulation and promotion of information industries by absorbing the roles of the Ministry of Communication (MOC) and other departments such as the Ministry of Commerce and Industry (MCI).

From this point in time onward, the regulatory agency had dual explicit policy objectives: neoliberal and developmental. As will be seen later, the MIC the new control tower of IT industry and policy, had a hybrid mission: to push neoliberal policy packages in the telecommunications industry, including privatization and deregulation, and to actively manage developmental projects intended to create homegrown wireless technologies such as CDMA. It is interesting that Korea linked the legacy from the developmental state model – legacies such as huge government-led research and development projects – with Korea’s active efforts to integrate its economic system into global capitalism. Korea actively accepted neoliberal tenets under political agenda umbrellas such as *segewha* but, at the same time, did not abandon its developmental tradition.

This hybrid type of strategic reaction to neoliberal globalization is best explained by the concept of the neoliberal developmental state. Scholarly studies of political economy posit that East Asian developmental states have converged into “neoliberal regulatory states” as a result of globalization since the late 1980s (Amyx, 2004; Jayasuria, 2005; Pirie, 2005a; 2005b). On the other hand, some have proposed that there has been more continuity than substantial change with respect to past practices despite global neoliberalization (Hundt, 2005; Lee and Han, 2006; Thurbon and Weiss, 2006; Vogel, 2006; Walter, 2006). However, the neoliberal state and the developmental state are not necessarily contradictory in practice, although the two notions may be in conflict regarding the role of the state. Strong state intervention is always necessary to make conditions favorable for business, as will be seen later. The role of the state has been creating and preserving an institutional framework that meets the needs of business.

#### *2.4.3. The growth of domestic capital power after financial liberalization*

Despite external pressure from the United States and domestic political changes, one of the most influential factors in telecommunications liberalization during this period was the rising pressure from domestic capital. There are three reasons why change in the power relationship between the state and capital in Korea was inevitable. First, the stake of private capital in the national economy skyrocketed, and the private sector emerged as the main driver of the Korean economy. When the government’s fiscal budget increased 3.76-fold from 1980 to 1990, the total

assets of the major domestic conglomerates jumped about 10-fold<sup>24</sup> (Hong, 1996, p. 221). The rapid growth of these private conglomerates raised the question of whether or not the government's role as a powerful driving force of the national economy, the developmental state, was still effective.

Second, a series of financial market liberalizations in the 1980s, supported by both the *chaebol* and the United States, weakened traditional tools designed to control the *chaebol*, such as bank lending regulations (Hart-Landsberg, 1993, pp. 231–235). After the financial liberalization, the *chaebol* were allowed to both possess financial institutions and also finance their businesses using local banks without government intervention (Pirie, 2008, p. 82). This change had a crucial influence on the *chaebol*'s entry into the telecommunication market, where infrastructure investments required massive infusions of capital.

Third, given the close connection between the legitimacy of the government and the growth of the national economy, the increase in domestic capital led to a gradual shift away from authoritarian control over the market to a state-business linkage that was more flexible than had been the case under the previous regime. Kim (2000) states that the government sought to prevent policy failure, and began engage in close consultations with the *chaebol* before making important economic decisions, particularly decisions regarding telecommunications policy (p. 455). For instance, the government did not impose its decision regarding the privatization of KMT and the licensing of a new cellular service provider in the 1990s. The government instead approached these policy issues in a cautious and consultative manner, and even authorized the Federation of Korean Industries (FKI) to select the new owner of KMT as well as a new licensee at a later date.<sup>25</sup>

This change in the power relationship between the state and capital in Korea was apparent in the telecommunications industry. Three key factors decreased private capital's dependency on the traditional telecommunications regime during the 1980s. First, the success of the regime allowed the telecom equipment industry to grow explosively. The expansion of fixed-line telephone networks and its subscribers during this period brought about colossal market

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<sup>24</sup> The total assets of the 30 major *chaebol* increased 7.69-fold, the top 10 *chaebol* 8.72-fold, and the top 4 *chaebol* 10.02-fold.

<sup>25</sup> The licensing process for a new cellular service provider and the privatization of KMT will be examined in detail later in this chapter (See pp. 38-41).

growth of telecom devices such as key phones, cordless phones, and electronic circuit-switch exchangers. There were strict barriers to entry for foreign companies, and domestic telecom device makers were the exclusive beneficiaries of the rapid increase in demand. The domestic telecom device market recorded an annual growth rate of more than 20% from 1983 to 1987 (MOC, 1988a, p. 86).

Second, this rapid expansion of business meant that large domestic companies emerged as the primary users of telecommunications services. Business telephone users required a high degree of security and quality, and the number of private telephone lines skyrocketed during the 1980s in Korea. Corporate data use increased so briskly that the ratio of voice to data equalized in the late 1980s. Business users often complained about the quality and price of the private networks provided by the monopolistic telecom system.<sup>26</sup> Schiller (1982) pointed out that disagreements with AT&T about pricing and services led business users to become significant participants in US telecommunications policy changes, such as the Above 890 Decision (p. 89). Just as US business users did, Korean business users, most of whom were the Korean conglomerates, began protesting such policies during the 1980s.

Third, capital's dependence on the state decreased as their business strategies changed. Until the late 1980s, Korean telecom equipment manufacturers pursued risk-adverse strategies. Device makers usually copied advanced technology from developed nations such as the United States or were the recipients of patented technology from government research institutes such as ETRI. However, these companies could not avoid being forced to increase their investments in technology because price competitiveness decreased and the technology protectionism practices of multinational corporations increased in the late 1980s. Samsung's successes in the semiconductor industry were achieved through risk-taking strategies, which encouraged active investments by *chaebols* to promote the development of new technologies. The competition for new R&D projects among private companies also increased in the late 1980s. The combined budgets of the top 32 private research institutes amounted to over \$10 million in 1990, while the

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<sup>26</sup> See Hee Young Song, "How to revitalize exports." *Chosun Ilbo*, 17 March 1990. During a meeting of the Association of General Trading Companies, participants expressed their dissatisfaction with the pricing of telephone service. Seong-In Um, the executive director of Samsung, said, "the price of telecom service in our country is most expensive among the export-oriented nations. In order to boost exports, the government should take measures to lower the prices."

Samsung Research Institute's budget was over \$100 million, which surpassed the budget of the governmental institute, ETRI (Hwang, 1993, pp. 183-187).

#### 2.4.4. *The repression of labor movement: the irony of political democratization*

Despite the growth of the labor movement during this time period, and in a spirit contrary to that of the rise of capital, the labor movement found itself unable to exercise substantive influence over the sort of policy-making that had transformed the telecommunications regime. After the 1987 June Democratization Movement, the elimination of the most severe forms of oppression of labor organizations led to the rapid growth in union membership. Most labor activities during this period, however, involved wage rates, not political issues (Cumings, 2005, p. 392). Only after the foundation of the Korean Confederation of Trade Unions (KCTU) in 1995 did the government allow the development of a politically progressive labor movement.

Meanwhile, the Korea Telecom Labor Union's (KTLU) activities were becoming noteworthy. During the 1990s, the KTLU, had 49,000 members, the largest membership of any single union in Korea, and played a leading role in establishing the KCTU. During the 1995 strike, 30,000 striking union members gathered at rallies in Seoul. The KTLU protested the telecom policy. In addition to a wage dispute, the union began criticizing three of the government's policies:

“First of all, we are concerned that the introduction of competition into public telecom service will result in mass layoffs.<sup>27</sup> Second, we think that the privatization of KMT was an irresponsible policy because the government sold a public asset to the *chaebol* at an unreasonably low price and because there has been a concern that the *chaebol* have been skimming off the top after privatization. Third, we also oppose the full-fledged opening of the markets to foreign capital after the WTO's Uruguay Round talk in 1994.”<sup>28</sup>

The union's arguments and concerns, however, did not affect the telecom policies because the conservative media supported the government's repressive measures. Soon after the strike, the minister of the MOC charged the 60 heads of the KTLU with prosecution on charges of engaging in an illegal strike. Within three months, most KTLU executives had been arrested for obstructing the MOC. This process involved the major players in the conservative press, including *Chosun Ilbo* and *Donga Ilbo*, denouncing the KTLU and saying that the left-wing

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<sup>27</sup> This gloomy prediction became a reality two years later. From 1997 to 2004, KT fired 24,412 workers.

<sup>28</sup> See Hak Jin Kim, “The tough times of a gigantic public enterprise,” *Donga Ilbo*, 28 May 1995.



labor union had crippled the nation's 'nervous system' and inconvenienced the public. The KTLU filed lawsuits against seven newspaper companies for a correction notice but lost the suit.<sup>29</sup> The most powerful opposition to the strike came from the "civilian" president. President Kim Young-Sam declared the union's activities to be subversive plots against the government.

"I view the recent illegal activities of KTLU as a huge threat to national security, not as an ordinary strike. It is immediately necessary for our government to impose strict punishment on the union leaders. Given the union's continuous political opposition to the government's information and communication policy, I cannot avoid believing that the union intends to overthrow the democratic government."<sup>30</sup>

This turmoil led to the labor movement in the telecom industry becoming stalled on the issue of wage demands. The opposition voices in the labor movement questioned the direction of telecommunications policy, and little has been heard from them since then.<sup>31</sup> This reflects a paradoxical result of democratization in Korea. The establishment of the Kim government was made possible a result of the Korean democratization movement led by dissident students, workers and citizens. The problem was that the new government repressed the voices at the bottom. Internal pressures had grown in Korean society seeking economic democratization including labor-management relationships, but these pressures failed to bring about change and reform. Eventually, calls for removing the legacy of the "developmental alliance" between the state and the *chaebol* came from outside Korea around the time of the 1997 Asian financial crisis, as will be seen in Chapter 3.

## 2.5. Power shift in the wireless telecommunications policy

The political and economic environments, which were linked to each other both in the global and the local contexts, brought about fundamental changes in the policy-making process and triggered a market-oriented shift in the wireless telecommunications policy landscape. The privatization of incumbent public enterprises such as KMT and the licensing of new wireless

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<sup>29</sup> See *Donga Ilbo*, "Seoul District Court says press doesn't need to release a correction notice on the KTLU case," 3 October 1995.

<sup>30</sup> See Hak Sun Kim, "The severe punishment is expected in reaction to the KTLU's strike," *Kyunghyang Shinmun*, 20 May 1995.

<sup>31</sup> See Jeong Ryeol Song, "KTLU decides to disaffiliate from KCTU," *Ohmynews*, 17 July 2009. The decline of the labor movement in the telecom industry resulted in the break-up of KTLU and KCTU. On the executive committee, the president of KTLU said, "our members now call for a practical labor movement rather than a political struggle."

services allowed Korean conglomerates, which were mainly *chaebol*, to enter the wireless telecommunications industry. The industry was expected to grow rapidly and become the most profitable market in the future. *Chaebols'* entrance to the industry influenced the configuration of national research and development project. The project was a product of state-interventionism in the sense that the state initiated and attempted to manage the projects as a developmental objective. But, research and development projects such as CDMA reflected how the power relations between the state and domestic capital had begun to change. It shows that the interests of the Korean conglomerates were in conflict with the traditional R&D system, and had begun to veer away from government control during the Kim Young-Sam government period (1993-1998).

#### 2.5.1. *The licensing award process and the privatization of KMT*

The process of selecting a second cellular service provider took place from 1991 to 1994. It illuminates the manner in which pressure to change undermined the traditional telecommunications regime. In 1990, the MOC's first restructuring plan for the telecommunications industry prescribed that the government should select a new cellular service provider by October 1992, and that the new provider would launch its mobile service by 1994.

In reaction to the plan, other government ministers, such as the Minister of the Economic Planning Board (MEPB), and the Minister of Commerce and Industry (MCI) asked the MOC to postpone the plan. They feared that the low localization rates of mobile communication technology and devices, and the early introduction of competition to the mobile service industry would have a detrimental impact on the trade balance.<sup>32</sup> Both academic economists and economists in state-run telecommunications research institutes such as the Korea Information Society Development Institute (KISDI) supported this concern.<sup>33</sup>

Some political insiders and members of the press suspected that the Roh government would favor SunKyung (SK) *chaebol* in choosing a second cellular service company, indicating a matrimonial/nepotistic relationship between the government and SK.<sup>34</sup> The truth was that the *chaebol* competed fiercely to obtain these new licenses. The reason was the mobile industry's

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<sup>32</sup> See *Maeil Kyungje*, "The selection of a second cellular provider goes adrift," 10 March 1992.

<sup>33</sup> See Jong Hoon Lee, "There is no practical benefit for our economy," *DongA Ilbo*, 24 August 1992.

<sup>34</sup> The son of SK Group married the daughter of president Roh. Due to the marriage relationship, SK group was considered to receive special benefits from the Roh government. See *DongA Ilbo*, "Cellular for SK, adds fuel to suspicion of business favoritism," 22 October 1992.

bright growth prospects. The rapid growth of KMT, which had recorded triple-digit annual growth in terms of subscribers, revenues, and net profits since 1988, proved that this was likely to be a huge industry.<sup>35</sup> Furthermore, the wireless telecommunications business was expected to be a breakthrough for the *chaebol*, who had suffered from profit erosion in their heavy-chemical industries since late 1988.

The MOC pushed ahead with its plan on the grounds that President Roh wished to finish the selection during his tenure and that US pressure for liberalization had increased (Song, 1999, pp. 91–93). After a four-month evaluation, SK was selected as a final winner. However, controversy remained because the result of the selection confirmed widespread suspicions about the relationship between President Roh and SK. Other *chaebols* that had failed to pass the screening for licensing demanded an immediate cancellation of the selection. The opposition party criticized the government for policy failure and corruption, and also called for cancellation of the license. Even the ruling party, the Democratic Liberal Party (DLP), pressured the government, aware that the Presidential election was coming up. Finally, the disruptions brought about by various political and economic interests forced the Roh government to cancel the license and turn over decision-making authority to the newly elected government. The initial process of selecting a second cellular service provider stirred up controversy and failed to produce any real outcome.

The newly elected Kim Young-Sam government (1993–1998) approached the licensing issue in a cautious manner, while dealing with continual calls from both domestic *chaebols* and the US government to reopen the licensing process. Foreign investors such as AT&T, Motorola, and Ericsson used the facade of the US government to aggressively demand that the licensing process be restarted. These entities sought to sell their products to a newly licensed company whose procurement was estimated to exceed \$0.5 billion during their first year in business.<sup>36</sup>

As mentioned above, the procurement market in Korea was already open to foreign companies as the result of telecommunications negotiations between the United States and Korea during the 1990s. In addition, transnational investment capital had a serious interest in this profitable market. Nearly 300 foreign companies participated in six consortiums which had been organized by domestic *chaebol* which were seeking the license. The licensing award made in

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<sup>35</sup> See *Maeil Kyungje*, “Diamond now, Korea Mobile Telecommunication,” 1 November 1992.

<sup>36</sup> See *Maeil Kyungje*, “Licensing is imminent, companies rush into procurement war,” 13 August 1992.

December 1993 was the watershed moment for foreign investment, which had added up to a total of \$9 million in 1993, and this skyrocketed to \$126 million in 1994. This rate of increase represented a growth rate of almost 1,300% (KISDI, 2001a, p. 171).

After losing the initiative and facing pressure from both domestic *chaebol* and foreign capital investors, the Kim Young-Sam government adopted an old nostrum, the strategy of delay. The government added a new condition to the reopening to the effect that a new service provider should adopt CDMA technology instead of analog mobile technology (cellular). This provision postponed the service's launch until late 1995 and was linked with the CDMA project, which ETRI and Qualcomm had propelled in association with Samsung, LG, and Hyundai. The intentions of the Kim government can be described as follows: First, the government needed time to search for optimal options in order to avoid repeating the policy failures of the previous government. Second, the government intended to avoid controversy regarding business favors by adopting CDMA, which had never been scrutinized commercially or technologically.

In December of 1993, the deadline for finalizing the methods for licensing the award came to a close. The Kim government suggested a new guideline that linked the licensing of a new service provider with the privatization of KMT<sup>37</sup> (Joo, 1995, p. 61). The government then owned 64% of KMT's shares through KT. Thirty-six percent of the shares had already been sold through public offerings beginning in the late 1980s. The 1987 guidelines for privatization specified that the government could use a limited public share offering. In order to enhance the redistributive effect and enhance the legitimacy of the military regime, only low-income families and individuals were allowed to buy stocks. In other words, domestic *chaebol* and rich people were prohibited from purchasing public enterprise stocks and the government continued to control the public enterprises by owning over 51% of their shares.

The Kim Young-Sam government changed the privatization policy to be so capital-friendly that the *chaebol* could obtain managerial control over a public enterprise by buying its stock. In December 1993, the government announced a privatization plan that included 68 state-invested or funded organizations and enterprises. There were three major principles: First, every public enterprise whose efficiency could be improved should be privatized. Second, public enterprises whose initial goals disappeared or weakened should be reorganized or annexed.

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<sup>37</sup> Joo states that the government used the privatization of Dacom to hint that the DongYang group could buy the stock of Dacom on the condition that they abandon participation in the licensing of a new mobile service provider.

Third, incentive systems should be introduced to the other public enterprises in order to enhance their efficiency (Kim, 1996, pp. 32-33). These guidelines allowed the government to permit the *chaebol* to own 45% of KMT's shares.

The most interesting point was that the government authorized the Federation of Korean Industries (FKI) to choose both a second mobile service provider and the new owner of KMT.<sup>38</sup> This was an unprecedented policy-making move. The state abandoned its rights and responsibilities to issue a license for public goods, and it gave the authority to the FKI, a representative interest group consisting of *chaebol*. In January 1994, the SK group became the major shareholders of KMT, and withdrew from the competition for new licensing. In addition, Shinsegi Mobile Telecom (SMT), whose dominant shareholder was POSCO, received the license for a new mobile service in June 1994. The government finally managed to put an end to the most controversial policies of the two previous administrations through the unprecedented "private sector's autonomous coordination and consensus." However, this lasted for only five years.

#### 2.5.2. *The Research and Development of Code Division Multiple Access (CDMA)*

The license award process for a new wireless service demonstrates how the changing environment impacted the implementation of policies such as entry regulation. The CDMA case shows how the growth of domestic telecommunications device makers influenced the traditional R&D project system.

There was concern about the saturation of incumbent analogue mobile networks due to the sharp increase of subscribers. The Korean government decided to rush into the development of digital wireless telecommunications technology in 1990 (MOC, 1990b, p. 83). ETRI realized that the lack of fundamental technologies would prevent this development. Thus, in order to speed technological research on a solution, ETRI requested a technology transfer from Motorola and other companies that already possessed Time Division Multiple Access (TDMA), the dominant technology standard in the global wireless telecommunications market.

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<sup>38</sup> See *Maeil Kyungje*, "The Federation of Korean Industries will have the power to decide licensing," 11 December 1993. The FKI was established in 1961 as a sort of interest group whose members are mainly *chaebol*. The revenues of the top 30 *chaebol* members of FKI accounts for over 40% of GDP in Korea, but they employ only 4% of the labor market. The FKI had its own newspaper, *Hankook Kyungje*, the second largest economy-specific newspaper, since its acquisition in 1980.

However, the companies refused to transfer the technology for fear of helping a potential competitor (Song, 1999, p. 83). The MOC and ETRI failed to obtain the TDMA technology, and invited Qualcomm, which owned the patent for the original CDMA technology, to join the joint R&D project. Qualcomm's CDMA was not accepted at that time as a technological standard even in its home country, and Qualcomm was a small startup company. Despite widespread domestic concerns about adopting an unproven technology (Han, 2007, p. 291), the MOC pushed ahead with its scheme, regarding it an opportunity for two reasons. First, the MOC thought there was little chance for TDMA to promote national competitiveness in the international market because the technology was already dominated by multinational equipment manufacturing corporations. Secondly, CDMA was more accessible than was TDMA in the particular aspects of technology transfer and "technology independence."<sup>39</sup>

In May 1991, the national-scale CDMA commercialization project was launched with a joint-development contract between ETRI and Qualcomm. The initial project was modeled on the development of TDX. The development of this electronic exchanger was considered to be a huge success by the traditional telecommunications regime. Under the government's initial plan, the public enterprise KMT, and the mother company KT, were prospective purchasers who provided funds for the project. ETRI, the government's R&D institute, obtained a related wireless transfer technology from Qualcomm and developed the entire wireless system to the commercial level. After successful testing, domestic equipment makers were supposed to participate in the project and produce wireless equipment that applied the results of the development process. This model was exactly the same as in TDX case except for the addition of KMT to the project.

However, conflicts of interest among domestic *chaebol* led to a crack in the traditional technology development process. During the second of the four different stages of the project, the government selected Samsung, LG, and Hyundai as qualified equipment providers. Samsung and LG were unhappy with this, and questioned why Hyundai had been selected despite its lack of experience in making electronic exchangers. Both companies were seriously concerned about

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<sup>39</sup> Technocrats and policymakers in Korean wireless telecommunications have long emphasized "technological independence." This has been regarded as an effective core strategy for catching up with advanced countries and boosting national economic growth. In this context, technological independence refers to ceasing to borrow technology from foreign firms and developing a fundamental technology inside Korea. (See details in Chapter 5).

the release of their core technology for telecom equipment such as electronic exchangers and personal wireless handsets.<sup>40</sup> Samsung and LG called for a reduction of their participation fee, and declared that they would withdraw from the R&D project unless the government satisfied their demands. Their protest ended in about a month. The *chaebol*'s boycott of the state-led R&D project was unprecedented and inconceivable within the context of the traditional telecommunications regime. This was a harbinger of the regime's dissolution during the CDMA development process. Under the subsequent Kim government, the *chaebol*'s attitude became more autonomous.

In June 1993, when the Kim government announced that it would restart the licensing process and link the process with the development of CDMA, two noteworthy changes occurred. The first change was that the role of coordinating the entire project process moved from ETRI to the Institute of Wireless Technology Development (IWTD). In September 1993, IWTD was established as an affiliated organization of KMT, which was sold to the SK *chaebol* three months later.<sup>41</sup> Despite the announcement connecting the licensing process to the development of CDMA, the MOC was unable to say with any degree of certainty whether or not the development of CDMA technology would be completely finished by the deadline. If the development plan were not finished on schedule, the MOC would become the target of various sorts of criticism from *chaebol*, foreign capital, and even the President (Song, 1999, p. 112). Furthermore, device manufacturers such as Samsung and LG continued to express their discontent with ETRI, saying that ETRI paid attention only to technological aspects of the project and neglected the commercial viability or feasibility of technology. For these reasons, the government handed over control of national-scale R&D projects to the *chaebol*.

The second change was that KT had retreated from the project, and KMT had assumed leadership after being privatized. Once the SK *chaebol* obtained managerial control over KMT,

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<sup>40</sup> See *Maeil Kyungje*, "The third wave of telecommunication war, electronic exchanger," 16 July 1985. The history of Samsung and LG's technological accumulation of electronic exchangers was not short. BTM, a Belgian company subsidiary of ITT, installed the first electronic exchanger in Korea in 1979. Soon afterwards, AT&T began selling its electronic exchangers. At that time, Samsung collaborated with BTM while LG worked with AT&T. In addition, the development of TDX in the 1980s led to both companies possessing more enhanced technology and experience.

<sup>41</sup> The head of IWTD, Seo Jung Wook, became the CEO of KMT after the privatization. He was an influential technocrat under the military regime. He served as the vice president of KT and the vice minister of Science and Technology in Roh's cabinet. His inauguration as the CEO of the privatized KMT showed that the SK *chaebol* attempted to reinforce their network with the government using the revolving door.

the KMT Technology Institute aggressively intervened in the CDMA development project. KT was the mother company of KMT and was still owned by the government. It was asked to back off despite financing the project. These two events were tied to the licensing of a new wireless company and the privatization of KMT, and demonstrated that domestic capital had begun to escape from state control of the development of new technology.<sup>42</sup>

The privatization of KMT had an immediate influence on the wireless equipment market. After being privatized in 1994, KMT changed its procurement method. KT was a public enterprise that bought fixed-line equipment from every manufacturer that participated in the TDX R&D project<sup>43</sup>. KMT decided to procure wireless equipment from only one contractor using a competitive bidding process. This decision intensified the competition between device-making companies participating in the CDMA project. In April 1994, LG declared that it would break away from the joint R&D project and would develop commercialized technology independently. In August 1994, Samsung followed LG's example. Only Hyundai decided to remain engaged until the end of the project.

When the joint R&D system collapsed, Samsung and LG spurred their independent development in order to move to a more advantageous position in procurement bidding. In February 1995, LG officially announced that it had succeeded in developing the CDMA digital wireless telecommunications system.<sup>44</sup> ETRI reacted by protesting that LG had violated the agreement signed by the project participants and raised suspicions regarding collusion between IWTD and LG.

Despite the vicissitudes of the process, Korea became the first country in the world to succeed in commercializing the CDMA digital wireless telecommunications technology.<sup>45</sup>

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<sup>42</sup> KT financed the CDMA project because it owned KMT. KT invested a total of \$20 million in the project from 1989 to 1993. This was 48.6% of the total investment of the CDMA project. After the privatization, KT considered its investment to be impractical and ceased such investments.

<sup>43</sup> KT attempted to bring competitive bidding into its procurement of TDX. However, it abandoned the plan because domestic manufacturers mobilized political pressure to resist the change. See *Maeil Kyungje*, "Bidding for TDX, backlash from manufacturers" 11 May 1992.

<sup>44</sup> See Kim Woo Tae, "LG finished the development of CDMA system," *Kyunghyang Shinmun*, 3 February 1995.

<sup>45</sup> In late 1996, KMT and SMT launched digital wireless service. There were some obstacles. The most challenging was that commercialization of the CDMA system had remained incomplete until late 1995. SMT requested that the MOC permit the use of analogue technology for its service release on schedule. Another obstacle was that the US government asked the Korean government to regulate the speed of CDMA technology because they were concerned about US firms' lack of competitiveness in the CDMA field.



During this process, the traditional telecommunications regime had been weakened. Domestic capital appears to have won a victory over the state. *Chaebol* such as Samsung, LG, SK, and Hyundai had emerged as the protagonists in the mobile telecommunications industry in Korea.

### 2.5.3. *The restructuring during 1994–1995 and the licensing of PCS in 1996*

The second restructuring of the telecommunications industry occurred in 1994. The third restructuring occurred in 1995, and indicated that the liberalization of the wireless industry, and the collapse of the national R&D system, which had been based on the traditional developmental state model, was the watershed for market-oriented transformation. These events encouraged the *chaebol* confidence in dealing with politicians and other external factors. During the June 1994 restructuring, lobbying of politicians by *chaebol* manufacturers led the government to fully eliminate the ownership limit on telecom service companies. The initial announcement stated that the MOC had set a maximum 10% of the shares as the ownership ceiling for a service company by equipment-makers.<sup>46</sup> However, the *chaebol* manufacturers lobbied in every possible way, including at the Blue House, and pressured the MOC to change this policy (Joo, 1995, pp. 107-108). The MOC eventually permitted the top four *chaebol*, including Samsung and LG, to become major shareholders of telecom service companies.

The power struggle between the government and the *chaebol* revived in the July 1995 restructuring and ended with the victory of the *chaebol*. The restructuring came about during the time of the high-speed IT infrastructure project.<sup>47</sup> Funding this enormous project meant that the Korean government needed financial participation from domestic capital. The *chaebol* seized this opportunity, and objected that the government would require them to invest in uncertain markets such as high-speed data applications and software while maintaining unnecessary regulations on the lucrative telecommunications service market. The government eventually decided to attract *chaebol* participation in the construction of high-speed IT infrastructure by introducing full competition into the telecom service industry. The MOC announced that full-fledged competition would be invited into every type of telecommunications business (KISDI, 2001b, p. 13). This

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<sup>46</sup> See *DongA Ilbo*, "The minister of communication says ownership regulation is totally necessary," 15 June 1994.

<sup>47</sup> The project was originally motivated by the United States' "Information Superhighway" project in 1993. Building this network required the Korean government to invest about \$450 billion in public funds over the course of 11 years.

decision meant that investments in the national backbone network were dependent on domestic capital from the *chaebol*.

The July 1995 restructuring brought about severe competition between the *chaebol*. The event began when the government released a plan for providing the market with 27 new licenses.<sup>48</sup> Given that the total number of telecom service providers was then only 15, the restructuring plan was an extreme version of liberalization policy, and was more than enough to promote immediate market competition. The most extreme case of competition occurred in the selection process for the Personal Communications Service (PCS) provider service,<sup>49</sup> the mobile communication market which was expected to exceed over \$10 billion in the near future.<sup>50</sup> During the licensing award process, the quasi-bidding system was controversial. The MIC, the successor to the MOC, issued a new rule that winners would be determined according to the amount of their contribution to the IT R&D funds.<sup>51</sup> Had this rule had been applied, the license award process might have been used to the advantage of large conglomerates such as the *chaebol*. By that time, the *chaebol* had accumulated a large amount of capital and technology which they used to expand into the global market. For example, Samsung invested \$150 million and acquired a 20% share in ENTEL in Chile (Lee, 1997, p. 113).

The controversy intensified despite two previous public hearings. The MIC announced that it would postpone the license award process until the following year.<sup>52</sup> This happened because the policy environment was worse than the MIC had expected in three ways. First, there was serious conflict between domestic capital companies. The top four *chaebol*, Samsung, LG, Hyundai, and Daewoo, argued that the MIC should stick to the original plan for domestic bidding. In contrast, small-and medium-size enterprises such as Hansol and Kumho insisted that

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<sup>48</sup> The new licenses were as follows: 1 international telephone service provider, 3 PCS provider, 2 wireless pager service provider, 10 TRS provider, 11 CT-2 service provider.

<sup>49</sup> Personal Communications Service, or PCS, is the name for the 1750–1870 MHz radio band used for digital mobile phone services in Korea. The Code Division Multiple Access (CDMA) system is used on PCS frequencies. Meanwhile, the digital cellular service of SKT and SMT uses the 800MHz radio band.

<sup>50</sup> In 2009, the wireless service market had expanded to about \$30 billion in Korea (estimated from the 2009 annual report of wireless service providers).

<sup>51</sup> This rule was inspired by the frequency bidding system in the United States. The bidding was not supported by the *Telecommunication Business Act* in Korea, so the MOC attempted to apply quasi-bidding to candidate companies that had passed the first screening process. See *DongA Ilbo*, "Seize the golden market, the war between companies," 6 September 1995.

<sup>52</sup> See *DongA Ilbo*, "MIC decided to put aside the PCS provider selection process," 8 September 1995.

the MIC should take remedial measures to prevent “a feast of *chaebol*.” First, the Korean Federation of Small and Medium Businesses (KFSMB), the lobbying group for small and medium-size enterprises, pressured the MIC to give licenses to their member-led consortiums.

Second, there was also a debate about technology standards for PCS. Unlike the license for new cellular service two years before, the government did not restrict the wireless technology that was set as a standard for PCS service. Instead, the national standard for PCS was supposed to be determined by consensus among the interested parties and technology experts. The beneficiaries of liberalization, SKT and Shinsegi, supported CDMA in light of their technological advantage and experience. KT preferred TDMA, because its rivals had expertise in CDMA.

Third, there was pressure from political circles. The DLP, the ruling party, requested that the MIC give priority to the small-and medium-size enterprise-led consortium in the licensing competition. This was the result of KFSMB’s lobbying and the DLP’s concerns regarding election schedules.<sup>53</sup> A general election was scheduled for April 1996. In order to attract votes, the ruling party distanced itself from the *chaebol* because anti-*chaebol* emotion was widely prevalent among the citizenry due to the increasing concentration of economic power in the *chaebol*. The MIC decided to postpone the selection process, just as the MOC had used a delaying strategy as a risk-avoidance method in 1993. However, the conflict and controversy surrounding the licensing of PCS and the criticism of the government’s decision failed to settle down.

In December 1995, the MIC announced that it would change the method of selection screening from quasi-bidding to a lottery system. The MIC wanted to avoid the resistance of the *chaebol*, who had dropped out of the licensing screening process (Jung, 2006, p. 45). This depoliticized policy indicated that the government had relinquished their authority and responsibility for selecting public goods for fear of resistance. After criticism from the *chaebol*, the MIC again changed the method of evaluating business proposals. In June 1996, the license

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<sup>53</sup> See *DongA Ilbo*, “PCS license award policy goes adrift due to pressure from business and politics,” 8 September 1995.

was divided into two parts, and finally enacted with each of the groups: one of the top 4 *chaebol*-led consortiums, LG, and one of the small and medium enterprise-led consortiums, Hansol.<sup>54</sup>

## 2.6. Conclusion: neoliberalization, power-shift, and the role of the state

In conclusion, this chapter notes that the Korean telecommunications industry was not an exception to the worldwide dissemination of the US communication system model that came into being in the 1980s. The US government and international institutions such as the WTO pushed the trend towards neoliberal transformation, which focused on deregulation and privatization of the mobile telecommunications market. McChesney (2001) notes that “the centerpiece of neoliberal policies is invariably a call for [the] commercial communication market to be deregulated” (p. 2). Global forces triggered the change away from the traditional wireless telecommunications policy regime based on a developmental state model to a neoliberal economic model.

This chapter also found that Korean conglomerates, which had accumulated capital and strengthened their economic power throughout the state-business alliance period during the developmental dictatorship, liberated themselves from state control by means of financial liberalization and rushed to the wireless telecommunications sector during the 1990s. All three policy-cases examined in this chapter, including the privatization of public wireless service providers, the licensing process of cellular and PCS services, and the research and development of CDMA, shows that the locus of power in the wireless telecommunications policy-making process began to shift away from the government and migrate to domestic conglomerates.

The neoliberal transformation of industry and the power shift to market is not a new or unique phenomenon that is particular to Korea. However, this chapter also found that the Korean state played an important role during the transformation of wireless telecommunications policy. First, the Korean state during the Kim Young-Sam government (1993-1998) actively accepted neoliberal globalization as part of the political agenda of *segewha*. The state played a crucial role in creating favorable conditions for business by implementing neoliberal policy packages that

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<sup>54</sup> Hansol was not a small- or medium-size enterprise. The owner of Hansol is married to the owner of Samsung. In Korea, the 2009 revenues of Samsung’s family-run businesses amounted to \$300 billion, and exceeded the annual budget of the Korean government. See Lee Doo Gul & Kang Jung A, “The history of Samsung family,” *Seoul Shinmun*, 8 February 2010.

included privatization and deregulation. Harvey (2007) pointed out that the major role of the state is “to create and preserve an institutional framework appropriate to the neoliberal practice” (p. 2). The state thus played a significant role in the neoliberal transformation of the Korean mobile telecommunications industry no less than was the case for transnational forces - including the US government, international organization, and transnational corporations - and domestic capital.

In addition, the Korean state, unlike other countries, did not abandon the tradition of the developmental state. Korea reorganized and empowered the telecommunications organization, whose mission was to both implement neoliberal policies and manage the national research and development of telecom technology. The state attempted to use the opportunity offered by neoliberal globalization strategically. This chapter depicts the research and development projects and the development of CDMA as an example of a power-shift in the wireless telecommunication policy. It also shows that the Korean state did not abandon the developmental model, although power-relations in the developmental projects were reconfigured to some degree in order to line up with the interests of domestic capital.

### Chapter 3. The paradoxical coexistence of neoliberal and developmental features

This chapter investigates the political economy of Korean wireless telecommunications during the liberal government period (1998-2008). This chapter will rely primarily on historical methods and first delineate crucial events that surrounded the industry, including the 1997 Asian financial crisis. And then, this chapter examines three wireless telecommunications policy cases, including the privatization of Korea Telecom, the R&D projects and licensing process of the IMT-2000, and those of WiBro.

As regards the investigation of political economic environments and major policy cases, this chapter argues that the tradition of the developmental state was not reduced but instead coexisted side-by-side with neoliberal reforms, while the state responded strategically to the 1997 Asian economic crisis. This chapter focuses on the Keynesian policy packages - such as expansionary fiscal policy, social welfare policy, and the promotion of consumption - as the true cause of the nation's rapid recovery from the crisis. This chapter points that the emphasis on the information-based economic growth model intensified the developmental features found in wireless telecommunications policy. This chapter also claims that the state took a crucial role in initiating the large-scale research and developments projects, although the policies were often reshaped later on in order to promote the interests of transnational forces and domestic corporations.

#### 3.1. The blind spot in "the end of the developmental state" thesis

The developmental state model has been widely adopted for the purpose of explaining the rapid economic development of East Asia. Johnson (1982) first conceptualized this in his analysis of the Japanese post-war economic miracle. The notion of the developmental state was created by conceptually contrasting it with the regulatory state<sup>55</sup>. Developmental states intervene directly in the national economy to promote economic growth by means of strong industrial

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<sup>55</sup> The regulatory state is notion that originated in the title of a book by James Anderson, *The Emergence of the Modern Regulatory State* (1962). It has been widely used for understanding political and economic governance in both the US and Europe after the retreat of welfare state. Because the notion was developed by contrasting the welfare states that dealt with Keynesian macro-economic stabilization and redistribution, the term "regulatory state" is often used to refer to the neoliberal state or is sometimes conceptualized as the 'neoliberal regulatory state' (Majone, 1997).

policies, while regulatory states govern the economy by setting the standards of behavior or by making formal and informal rules for the purpose of preventing market failures.

The practical outcome of this conceptualization was that early developmental state theorists overemphasized an “autonomous” state featuring a large government bureaucracy, authoritarian domination over society, interventionist industrial policies, and economic protectionism (Amsden, 1989; Haggard, 1990; Wade, 1990a; Wade, 1990b; White & Wade, 1988). Other scholars paid more attention to the shifting balance of power between the state and business, or the blurring of the line between the state and business, rather than the “autonomy” of the state by suggesting various conceptual metaphors.<sup>56</sup> Nonetheless, the reification of a coercive and centralized state remains in the field of international political economy studies and often leads to misreadings of recent political economic changes in the East Asian region.

For example, more than a few scholars of political economy have predicted the decline of the region’s developmental states (Haggard, 2000; Pang, 2000; Jayasuriya, 2005; Pirie, 2008), since the financial crisis occurred and deepened the neoliberal transformation of national economies in the East Asian region in the late 1990s. The “end of the developmental state” thesis posits that developmental states in East Asia have ceased their interventions in national markets and have passively converged upon the neoliberal model of capitalism under the pressure of globalization.

Korea has emerged as an important case study that supports the thesis, and its post-crisis reforms are frequently cited as indisputable evidence of Korea’s neoliberal restructuring. For instance, Kim (1999) suggests that the Korean developmental model - state domination and subordination of big business - has rapidly eroded due to economic liberalization. Minns (2001) analyses that the demands made by various class forces and their intrusions into politics undermined the autonomy of the state and brought an end to the developmental policy. Pirie (2008) declared that Korea should be understood as “an unambiguously neoliberal state” because

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<sup>56</sup> Many scholars created concepts that sought to explain the blurring of the line between state and business, including: “embedded autonomy” (Evans, 1995); “governed interdependence” (Weiss, 1995; 1998); “public-private reciprocity” (Fields, 1997); “from developmental state to post-developmental state” (Kim, 1999); “eclecticism beyond orthodoxies” (Clark & Jung, 2004); “a transformative state in which the state acted as senior partner” (Cherry, 2005); and a “developmental alliance between state and business” (Hundt, 2008). The common thread linking these arguments is that the state has acted like a partner, not a commander, with the business sector in the transformation of industry and industrial policies.

it has relinquished heavy-handed market interventions in favor of liberalization since the 1990s (pp. 7-10).

However, the declinist thesis should be closely examined, at least, with regard to the Korean wireless telecommunications policies, which were developed during the liberal government period (1998-2008). The proponents of the declinist thesis have often simply associated the developmental state with protectionist policies and authoritarian control over the market. They appear to define the Korean developmental state as a coercive state extrapolated from the image of the state during the military regime of 1961-1987. However, they neglected to examine the changing nature of the developmental state. The developmental state can be understood as a distinctive brand of capitalism in East Asia in which national economic growth has been given a top priority in politics (Thurbon, 2011). The appropriate role of the state has been repeatedly redefined for the sake of national economic growth. In other words, the specific features of a developmental state have been reconfigured depending on the political economic environments that a country faced at different points in time.

For instance, after the 1997 financial crisis, both the Korean national economy and its wireless telecommunications industry became more liberalized than during previous periods. The privatization of state-owned corporations and the deregulation of foreign ownership were accomplished to secure easy access for global capital to Korea's telecommunications network and industry, in accordance with neoliberal tenets. However, the government simultaneously initiated interventionist industrial policies such as the research and developments of IMT-2000 and WiBro technology. This paradoxical coexistence of neoliberal reforms and developmental traditions can be better understood if we focus on the flexibility of the state role. Relying on a static understanding of the developmental state model is not helpful for grasping the complicated hybrid political economy of both the Korean national economy and wireless telecommunications.

Given this context, this chapter first analyzes the political economic environments, which impacted and shaped the major wireless telecommunications policies during this period. There were a variety of changes in the structural environment that surround the wireless telecom industry and policy landscape. This chapter focuses on four interconnected events: the impact of the 1997 Asian financial crisis, the Korean government's strategic reactions to the crisis, the intensification of the information-based growth model, and the reforms and their consequence in the corporate sector. This chapter also examines three wireless telecommunications policy cases,



including the privatization of Korea Telecom, the R&D projects and licensing process of the IMT-2000, and those of WiBro, and focuses on the role of, and interactions between, the Korean governments, transnational forces, and domestic corporations.

### 3.2. The changes in political economic environments under the liberal government

During this period, the political and economic environments that surrounded the policy landscape interacted to produce Korean wireless telecommunications policies that were both neoliberal and developmental in nature. Korea faced economic challenges and experienced a “transition failure” when it was integrating the Korean economy into the global capitalist economy. The active acceptance of globalization under the Kim Young-Sam government (1993-1998) led to the neoliberalization of the national economy, the unstable labor market<sup>57</sup>, and *chaebols*' dependence on foreign loans. These factors increased the vulnerability of the national economy and worsened Korea's susceptibility to the economic crisis. The 1997 Asian financial crisis, often referred to inside Korea as the IMF crisis, brought on a serious economic slowdown and numerous corporate bankruptcies in Korea. The IMF-sponsored neoliberal reform program was imposed on Korea after the crisis. Overcoming the crisis required Korea to accept foreign institutional pressures to open its financial and service markets in a more active manner. The Korean national economy was consequently restructured into a more neoliberalized system under the IMF regime. However, the Korean government simultaneously adopted the Keynesian approach and strengthened the information-based economic growth structure as a core crisis recovery strategy. This strategy led to large-scale research and development projects in the wireless telecommunications under the MIC, the control tower.

#### 3.2.1. *The “IMF crisis” and the accelerated neoliberalization of the Korean economy*

The economic, currency and financial crises of 1997-1998 brought about structural changes in the Korean economic system. At that time, the Asian region, including Korea, was confronted with a series of financial crises. The Asian crisis began in Thailand in mid-1997 with the financial collapse of the Thai baht. This was caused by a lack of foreign currency to support

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<sup>57</sup> The Kim Young-Sam government and the ruling conservative party passed the Labor Standards Act in a secret pre-dawn session without opposition party members in December 1996. The revised sought to liberalize the labor market. The revised act gave employers more freedom to lay off employees, hire replacement workers during strikes and impose unpaid overtime. It simultaneously maintained restrictions on workers' rights to organize trade unions.

its fixed exchange rate. Afterwards, the crisis spread rapidly to other countries in the region. Although most of Southeast Asia, including Japan, experienced currency devaluations, stock market crashes and asset price changes and a steep rise in private debt, Thailand, Indonesia, and Korea were most directly affected by the crisis.

One of the unusual features of the crisis is that the affected economy had experienced strong economic growth, relatively moderate inflation, and disciplined fiscal policy (Hawkins, 2003, p. 19). How could these supposedly ‘robust’ economies fall into crisis? Popular accounts of the causes of the crisis involve “moral hazard” arguments that often attributed the crisis to the Asia-specific problems. These arguments state that crony capitalism,<sup>58</sup> developmental industrial policy, and implicit government guarantees encouraged banks and firms to take excessive risks. These three types of government actions induced moral hazards in private sector decision-making and brought about the financial crisis (Brittan, 1997; Burton, 1998; Kang, 2002; Krugman, 1998; McKinnon & Pill, 1998; Yoo, 1997). The Asian crisis was tied to neoliberal globalization. Although the “moral hazard” argument continues to predominate, the crisis was primarily caused by the “manias, panics, and crashes” mechanism that is inherent in the sort of unregulated financial markets that the East Asian economy developed as a result of rapid financial liberalization after the late 1980s (Chang, 2000, p. 776). This researcher understands that the Asian economic crisis was a transition failure that occurred because the nations that were impacted were in the process of integrating their economies into neoliberal global capitalism.

The Korean economic crisis of 1997 was an outcome of transitioning its economic system and structure. Korea had an export-oriented growth model, and was eager to pursue structural change involving moving away from labor-intensive industries to capital/technology-intensive industries. In the early 1990s, Korea’s global competitiveness in labor-intensive industries dropped rapidly due to rising labor costs within Korea and increased competition from China and other developing countries in Asia (Jin, 2011, pp. 33-34). Semiconductors (17.7%) became the most important export item in 1995, whereas textiles (23.1%) had been the top export products of Korea in 1985.<sup>59</sup> Given these circumstances, trade balances rapidly

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<sup>58</sup> “Crony capitalism” is a term describing an economy where personal connections and political patronage, rather than entrepreneurial ability, determine who can obtain credit and other resources (See Kang, 2002).

<sup>59</sup> Source from the Korea International Trade Association (KITA) database (See <http://www.kita.net>)

deteriorated to \$23.7 billion, which was equivalent to more than 5 percent of GDP in 1996.<sup>60</sup> The trade deficit was largely due to declining export earnings, whose main cause was the “cyclical downturn” in semiconductor prices (Shin & Chang, 2003, p. 36). Semiconductors were the leading Korean export items, and the decline of their exports impacted the nation’s trade balance.

However, the most important factor in the crisis was the financial vulnerability of an economy driven by financial liberalization. The main problem was the rapid buildup of short-term (less than 1-year) foreign debts. This was a direct result of an extensive financial liberalization that began in the late 1980s and which accelerated under the Kim Young-Sam government (1993-1998). The mixture of (a) deregulation of entry restrictions for the financial industry sector, (b) lax regulation of bank risk exposure and asset-liability match, and particularly (c) liberalization of foreign borrowing, brought about a rapid accumulation of foreign debt. Korea’s foreign debt skyrocketed from \$79 billion in 1995 to \$105 billion in 1996 to \$120 billion in 1997.<sup>61</sup> Korea’s foreign debt was so large that it added up to nearly one-fifth of all of the foreign debt borrowed by all Asian countries (Fukagawa, 1998, p. 361). The share of short-term debt reached 50.2% of Korea’s total amount of foreign debt in 1996 (Corsetti, Pesenti, & Roubini, 1999, p. 336).

Interestingly, the primary users of short-term loans were the Korean large conglomerates known as *chaebol*. After financial liberalization, it became easier for the *chaebol* to finance their businesses because they experienced less government intervention than had been the case before. *Chaebol* borrowed heavily to finance their investment projects to the extent that the average debt-equity ratio for the 30 *chaebols* in 1996 was 333% in 1996<sup>62</sup> (Corsetti, Pesenti, & Roubini, 1999, pp. 317-318). The large Korean conglomerates attempted to expand into a variety of new fields that had little or no relationship to their core industries using excessive amounts of borrowed money. For example, Samsung, a representative Korean electronics firm, invested in the auto business, while a Korean global car manufacturer, Hyundai poured its money into

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<sup>60</sup> Source from the Bank of Korea’s economic statistics system database (See <https://ecos.bok.or.kr>)

<sup>61</sup> Source from the Bank of Korea’s economic statistics system database (See <https://ecos.bok.or.kr>).

<sup>62</sup> The comparable figure for the average debt-equity ratio of US firms was close to 100% (Corsetti, Pesenti, & Roubini, 1999, p. 317).

semiconductors and telecommunications equipment industry. Six of the top 30 *chaebols* filed for bankruptcy protection in 1997.<sup>63</sup>

Faced with this unexpected currency crisis, the Korean government requested assistance from the International Monetary Fund (IMF) in November 1997. This was urgent business, given that Korea's usable foreign exchange reserves had declined from \$22.5 billion at the end of October 1997 to \$6 billion in early December 1997 (IMF, 1999, p. 6). On December 3, the Korean government and the IMF agreed on a bailout amounting to \$58 billion<sup>64</sup>, the largest aid package in IMF history. However, the IMF attached a variety of conditions to its loan to Korea, just as it had done with Thailand and Indonesia.

The IMF-sponsored structural reform program which was imposed on Korea following the crisis induced the nation to transform its economy to a more neoliberal model. The IMF program instituted in Korea after the crisis had three major elements: (a) macroeconomic retrenchment, (b) market opening, and (c) structural reforms of the financial sector, corporate sector, labor market, and public sector.<sup>65</sup> Macroeconomic retrenchment included monetary policy that maintained high interest rates and tight budgetary policies intended to maintain a small budget surplus. More significant was the implementation of fuller liberalization of product and capital markets. According to a series of memorandums of understandings (MOU) between the IMF and the Korean authorities, all of the trade-related subsidies and imports barriers such as the Import Diversification Program<sup>66</sup> were abolished. The upper limit to foreigners' domestic shareholdings was eliminated, the bond market was fully opened to foreign investors, and commercial lending was further liberalized (Shin & Chang, 2003, p. 54). As far as market openness is concerned, Korea looks as if it became a full 'First World country' after accepting the IMF's call for reforms.

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<sup>63</sup> The six *chaebols* that filed for bankruptcy in 1997 were Hanbo, New Core, Halla, Kia, Jinro and Sammi. Hanbo and New Core operated in 13 industries, while Kia and Jinro were in 11, Halla in 12 and Sammi in 9. Although the number of industries is relatively small, it had increased more rapidly for these six groups than for all of the other *chaebols* during the past three years (OECD, 1998, p. 93).

<sup>64</sup> Total sum of bailout package consists of various sources: IMF (\$20.9 billion), World Bank (10), ADB (4), USA (5), Europe (6.3), Canada (1), Australia (1), Japan (10), New Zealand (0.1) (Hawkins, 2003, p. 26).

<sup>65</sup> Major components of the IMF program in Korea summarized in this study are based on the memorandums and letters of intent which the Korean Ministry of Finance and Economy (MOFE) submitted to the IMF (MOFE, 1997a; 1997b; 1998a; 1998b; 1998c; 1998d; 1999).

<sup>66</sup> The Import Diversification program, which had been implemented since 1978, sought to avoid over-dependence on a small number of traditional trading partners, most notably Japan. Korea's dependence on Japan as its major source of imports generated large and chronic annual trade deficits with Japan (Shin, 1999).

The four major system reforms directly reflected the popular view of western economists regarding the causes of the Asian financial crisis. In the financial sector, the Financial Supervisory Commission (FSC) was established to comprehensively supervise financial institutions. The government introduced a “global standard” such as the BIS capital adequacy ratio, shut down “ailing” commercial banks and non-bank financial institutions, and forced some of them to agree to mergers and acquisitions. Similar reforms occurred in the corporate sector, especially *chaebol*, because they were accused of being a major cause of the crisis. The government pushed the Korean conglomerates to reduce their debt-equity ratios, prohibited them from engaging in loan guarantees with their affiliates, forced them to reform corporate governance, and urged them to concentrate on their core business by selling, closing, and swapping their over-expanded peripheral businesses.

Among the four sectors, the reform of the labor market and public sector were also in agreement with neoliberal ideas. Although neoliberal labor policy under the Kim Young-Sam government had already made the Korean labor market “flexible,” the Labor Standard Act was revised in February 1998 to make layoffs of surplus employees easier than before, as had been agreed upon with the IMF (Park & Yoon, 1998). In addition, the practice of the recruitment of temporary workers by specialized contingent labor agencies devoid of responsibilities to workers they employ was fully legalized in the 1998 National Labor Dispatch Law (Jun, 2011, p. 70). In the public sector, the privatization of government-owned companies was implemented across a wide range of industries. The first and second Public Enterprise Privatization Plan announced in 1998 included the plan for the full privatization of five companies and a phased or partial privatization of six companies in telecommunications, steel-manufacturing, heavy and chemical industry.<sup>67</sup> During the liberal government period, seven companies, including Korea Telecom, POSCO, and Korean Integrated Chemical, were fully privatized according to the plan.<sup>68</sup>

To sum up, the crisis should be understood as a transition failure which occurred when Korea integrated its economy into neoliberal global capitalism in the 1980s. The 1997 economic crisis was a catastrophic event that brought about economic, political, and social changes in

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<sup>67</sup> According to the plan, although only 11 companies and 21 subsidiaries were selected from among 26 companies and 82 subsidiaries that had been reviewed, the sum of targeted companies’ revenues was 70% of the total revenues of all public enterprises (See MOFE, 1998d).

<sup>68</sup> The privatization of the Korea Electric Power Corporation, Korea Gas Corporation, Korea Housing Corporation, and Korea Land Corporation were not finished contrary to the schedule.

Korea. Most importantly, there was huge direct pressure from global forces, which the IMF represents, that reshaped Korea's financial sector, corporate sector, labor market, and public sector. After the crisis, Korea could not avoid accepting the neoliberal tenets that were embedded in a wide range of government policies, business activities, and workers' lives, although Korea exhibited a different path during the recovery from the crisis.

### *3.2.2. Political change after the financial crisis, and Keynesian recovery*

The economic crisis occurred a month before the Korean presidential election of 1997. It enabled the Kim Dae-Jung government to take power.<sup>69</sup> Just as one major cause of Bill Clinton's victory was the economic problems ascribed to the policy failures of the previous administration, an economic crisis often triggers political change. What is notable is that this regime change was exceptional in the sense that the opposition parties won the presidential election, and a democratic transition of power took place for the first time in Korean history. Before this changeover, conservative parties founded upon military political force had ruled Korea for nearly four decades.<sup>70</sup>

The Kim Dae-Jung government gave top priority to overcoming the crisis and revitalizing the nation's economy. President Kim Dae-Jung's inaugural speech defined the economic turmoil as "the most serious national crisis since the Korean War"<sup>71</sup> and promised that he would continue with the reform measures the Korean government had agreed upon with the IMF. As noted above, the Korean government implemented reform measures in the financial, corporate, labor, and public sectors. The characteristics of the implemented measures were neoliberal in the sense that they sought to reduce the control exerted by the government over the economy and increasing the degree of economic freedom in the private sector by means of privatization, trade liberalization, market opening, and deregulation.

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<sup>69</sup> Freedman (2005) argues the economic crisis was not directly related with the political change on the grounds that the economic crisis did not cause massive protests and the presidential candidates did not use the crisis to their advantage (p. 235). However, it ignores Korean citizens' political sentiments at that time and the maturity of Korean democracy.

<sup>70</sup> Kim Young-Sam was the first president to not emerge from the military. However, he joined the ruling party, Democratic Justice Party, a year before the 1992 presidential election despite his long career as a charismatic opposition party leader. His decision to join the conservative and military-originated political forces has been criticized for the regression of Korean democracy.

<sup>71</sup> Source: translation of presidential inaugural speech, February 25 1998 (<http://shlel.tripod.com/krinaug.htm>)

It is thus ironic that the Korean government simultaneously adopted a Keynesian approach to hasten the recovery from the crisis. The Korean economy experienced a noticeable recovery starting in late 1998, contrary to earlier predictions that economic growth would remain sluggish for a minimum of three or four years after the crisis. Korea's GDP started to increase at an unexpected rate: -6.9% (1998), 9.5% (1999), and 8.5% (2000).<sup>72</sup> Korea's recovery was so rapid that on December 30, 1999, the IMF acknowledged that Korea had actually 'graduated' from the IMF assistance program. The three-year stand-by arrangement expired in late 2000 (Ahn, 1999). The IMF and its supporters attributed this unprecedented rapid recovery to the Korean government having faithfully executed the IMF reform program.

The true cause of the rapid recovery from the crisis can be found in Keynesian macroeconomic policies such as monetary and budgetary policy. As regards monetary policy, the monetary authorities such as the BOK and the MOFE trimmed interest rates, a move that had no precedent. The inter-bank call market rate, which the BOK influences, dropped from nearly 30% in the early 1998 to 5% in early 1999.<sup>73</sup> At the same time, the corporate bond rate also significantly dropped. The initial recommendation of the IMF was to maintain high market interest rates, but this was poison to the recovery. After changing monetary policy, banks could extend loans to the corporate sectors and firms could obtain money to operate their businesses.

The other key factor in the rapid recovery was the recapitalization of banks using public money. The Korean government increased its budget deficit to support financial institutions, which was contrary to the IMF's initial recommendation. A series of firm bankruptcies increased bad loans<sup>74</sup> made by domestic banks to 68 trillion won (about \$52 billion) as of March 1998 (Yoo, 2013). In August 1998, a non-performing resolution fund was created within the Korea Asset Management Corporation (KAMCO) to clean up the large amount of bad loans made by financial institutions (Lim & Hahm, 2004, p. 16). The fund purchased the distressed bonds of banks and other financial institutions from November 1997 through the end of 2002, which were worth approximately 110 trillion won (IMF, 2004, p. 8). Without the recapitalization of Korean

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<sup>72</sup> Source: Bank of Korea's economic statistics system database (See <https://ecos.bok.or.kr>).

<sup>73</sup> Source from the Bank of Korea's economic statistics system database (See <https://ecos.bok.or.kr>).

<sup>74</sup> In line with international standard, loans in arrears for three months was classified as bad loans or "non-performing loans" (Kim, 2006, p. 14).

financial institutions with public money, the recovery would have been as stagnant as the IMF had initially predicted.

Together with macroeconomic policy, the Keynesian crucial measures the liberal Korean government implemented sought to expand the social security system with public funds and increase domestic consumption. First, the lack of a ‘social security network’ made the impact of the economic crisis much worse when tens of thousands workers lost their jobs<sup>75</sup>. The liberal government implemented several reforms in the nation’s social security system. The government consolidated occupational/region-based health insurance societies into a national single payer system with one fund managed by a public agency in 1998. This expanded the coverage offered by the National Pension Scheme to all Koreans in 1999. The National Basic Livelihood Security System was introduced as a modernized public assistance system in 2000. The result was that social expenditures<sup>76</sup> by institutionalized programs almost doubled under the liberal government (Kim, 2006e, p. 16). These reforms took place at the time when Korea was integrating its economy into the neoliberal global economy. This may appear paradoxical from the perspective of neoliberal globalization enthusiasts who often vilify ‘big’ government and argues in favor of retrenchment of the social security system in an era of neoliberal globalization.

At that time, government sought to increase domestic consumption to aid the nation’s economic recovery. Korea had accomplished an unprecedented sort of rapid economic growth, often known as ‘the miracle on the Han River,’ by means of its export-oriented strategy, but this dependence on exports was considered to be the weak point of the Korean economy during the crisis. In addition, although high saving rates had contributed to nation’s economic growth, it could induce “the paradox of thrift”<sup>77</sup> during the recession. The government decided to boost consumption using credit cards. Offering a wide range of incentives, such as tax refunds and allowing *chaebol* and financial companies to enter the credit card business, the government succeeded in increasing domestic consumption by promoting the use of credit cards. Credit card

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<sup>75</sup> Unemployment rate around the crisis was as follows: 2.0% (1996), 2.6% (1997), 7.0% (1998), 6.3% (1999), 4.1% (2000), 4.0% (2001), and 3.3% (2002). Source from the Korean Statistical Information Service (<http://kosis.kr>)

<sup>76</sup> The share of the total welfare spending in GDP before and after crisis was: 4.25% (1990), 5.29% (1996), 6.46% (1997), 10.86% (1998), 9.77% (1999), and 9.13% (2000).

<sup>77</sup> In Keynesian concepts, the paradox of thrift means that if everyone decides to save more especially during an economic recession, falling consumption causes the economy fall into a recession, incomes will fall, and so will savings eventually.



use skyrocketed from 63.5 trillion won in 1998 to 623 trillion won in 2002.<sup>78</sup> The ratio of credit card use to private final consumption was 73.9% in 2002, compared with 12.7% in 1998. Consumption-driven economic strategy was a very effective way to foster economic recovery and growth. The ratio of private final consumption to GDP increased from 50.3% in 1998 to 56.7% in 2002.<sup>79</sup>

Despite their success, the Keynesian approaches to recovery had some limitations. First, the expansion of the social security system was insufficient to secure stable welfare for Korean citizens. The concept of “productive welfare” suggested by the Korean liberal government may be the third way “based on an integrated balance of economic growth and welfare” (Kim, 2003c, p. 67). However, given that productive welfare emphasizes the individual’s work as its primary condition, it was in line with neoliberal ideology, which emphasizes the individual’s responsibility to be self-sufficient instead of understanding welfare as a social right. The Korean unemployment rate does not accurately reflect reality, and the concept of productive welfare was unsatisfactory. Second, consumption-based growth brought about another potential risk to Korean economy, the increase in household debt. The 2003 credit card crisis reflects the weakness of the consumer-based economy. Policy measures helped Korea’s credit card market grow substantially, but unregulated credit card market competition produced 4 million credit card loan defaulters<sup>80</sup> and led to distress in the credit card business, financial markets, and the national economy.

To sum up, Korea developed a more neoliberal economic system after the 1997 financial crisis, and the Keynesian approach played a crucial role in the national economic recovery. It is often understood that neoliberalism is the antithesis of Keynesian economic and social policy. The developmental state is said to be in line with the Keynesian approach in the sense that strong government intervention is considered a crucial component of the nation’s economic and social development. The coexistence of these two heterogeneous approaches may appear paradoxical at first glance. However, neoliberalism does not necessarily require a “powerless state” or the abandonment of developmental intervention. During the neoliberal transformation, the

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<sup>78</sup> Source: Credit Finance Association statistics (See <https://www.crefia.or.kr/portal/data/statistics/creditcard/creditcardResultUpdateView.xx>)

<sup>79</sup> Source: Bank of Korea’s economic statistics system database (See <https://ecos.bok.or.kr>).

<sup>80</sup> As of April 2004, the number of credit defaulters reached 3.83 million people and the ratio of financially troubled individuals to the economically active population in 2004 (23.3 million) was about 16.5%.

persistence of power relations and interests embedded within the developmental state often prevented a full-fledged neoliberal regulatory state. Korea under the liberal government (1998-2008) can be defined as a hybrid type of neoliberal developmental state. The unabated emphasis on the role of state in promoting its economy enabled the emergence of the knowledge or information-based economy as the new economic model in Korea. The information-based economic growth model led to the intensification of the role of the Korean telecommunications regulation agency, the MIC, as the control tower of IT policy.

### *3.2.3. Information-based economy and the MIC as a control tower of ICT development*

The liberal government drove the development of the information and communications technology industry (ICT) in order to revitalize the nation's economy and foster competition in the global market after the crisis. Korea had already recognized the importance of ICT and the fact that relevant products such as semiconductors played a crucial role in Korean exports immediately before the crisis, so the government focused on ICT as the nation's growth engine. Two liberal government presidents gave top priority to ICT-driven economic growth. President Kim Dae-Jung's inaugural speech on February 25, 1998 emphasized that "intangible knowledge and information will be the driving power for economic development."<sup>81</sup> President Roh Moo-Hyun, the successor, also emphasized the importance of information-based economic growth. He said, "I will promote the continued expansion of the infrastructure for a knowledge and information-oriented society and cultivate new industries."<sup>82</sup>

Under the liberal government, the main strategy of economic growth involved shift Korea's economic model to an increasingly information-based economic model. The result in the trade sector was that semiconductors became the largest or second largest export item during the 2000s, and total semiconductor exports increased from \$8.4 billion in 2000 to \$39.0 billion in 2007.<sup>83</sup> More particularly, wireless telecommunications equipment contributed to the increase in Korean export during the 2000s. According to the Korea International Trade Association (KITA), the total exports of mobile handsets and parts increased from \$6.6 billion in 2000 to

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<sup>81</sup> Source: translation of presidential inaugural speech, February 25 1998 (<http://shlel.tripod.com/krinaug.htm>)

<sup>82</sup> Source: translation of presidential inaugural speech, February 25 2003 (<http://news.bbc.co.uk/2/hi/asia-pacific/2797053.stm>)

<sup>83</sup> Source: National IT Industry Promotion Agency (NIPA) database (See <http://www.nipa.kr>).

\$28.2 billion in 2007.<sup>84</sup> In 2004, ICT goods accounted for 34% of Korea's total merchandise exports, and Korea was the second largest among OECD countries, as measured by the ICT research and development percentage share of GDP (OECD, 2006). Exports of semiconductors, wireless equipment and other ICT goods from Korea grew at an annual average of 10% from the late 1990s. It grew to USD \$88 billion in 2006, and nearly 60% of all venture capital investment in Korea was in the ICT sector (OECD, 2008). The ICT industry's share of GDP increased from 4.7% in 1997 to 16.2% in 2006 (Hong, Ko & Volynets, 2007, p. 96).

Building an information-based economy required that Korea implement ICT-related policies in three areas: building an information infrastructure using projects such as the nationwide broadband network, promoting technological capacity by means of R&D projects, and ensuring fair competition. The primary goal of the Korean government was to create a "virtuous circle" in the ICT industry founded on facility-based competition. The development of affordable information infrastructure<sup>85</sup> induced the growth of the service sector, which, in turn promoted additional demand for high-end equipment and terminals, and also helped develop the manufacturing sector. Enhanced competitiveness in the manufacturing sector enabled Korean-based multinational corporations such as Samsung and LG to grow and become global ICT giants. The increase of exports driven by the Korean ICT giants contributed to the growth of Korea's economy. In this model, the center of ICT policies was not regulations but rather the industrial promotion policy.

The Ministry of Information and Communication (MIC), the Korean telecommunications regulator, functioned as the control tower of ICT development under the liberal government. It was first established in December 1994 as an outcome of neoliberal regulatory reform. The MIC went on to take a leading role in the promotion of information-based growth as the liberal

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<sup>84</sup> Source Korea International Trade Association (KITA) database (See <http://www.kita.net>).

<sup>85</sup> The exemplary project that the government implemented to build enhanced information infrastructure was the Korean Information Infrastructure (KII). Under the KII plan, the government invested \$11 billion into the development of broadband networks between 1999 and 2002 (Jin, 2011, p. 45). In addition to building the physical network, the liberal government implemented the e-government initiatives to increase citizen awareness of the benefits and usage of ICT. Since 2001, the government invested more than \$250 million during the course of two years in 11 major e-government projects (Hong, Ko, & Volynets, 2007, p. 90).

government pursued information-based economic growth. Most of all, laws<sup>86</sup> such as the Telecommunications Business Act gave the MIC a broad range of discretionary powers to use in regulating and promoting telecommunications and broadcastings industries: licensing for service providers; setting technical standards; promoting research and development; securing fair competition; regulating interconnection; building the Korean Information Infrastructure; operating the Informatization Promotion Fund (IPF); implementing e-government initiative; spectrum planning and allocation, numbering and so on (See Table 2).

In addition to its discretionary powers, the MIC under the liberal government exhibits several interesting characteristics. First, the IPF managed by the MIC was an efficient way to implement the informatization initiatives, which often require large-scale investments and long-term cooperation on the part of various stakeholders, which is often problematic to implement within the general budget. IPF<sup>87</sup> was a flexible financing mechanism for avoiding the budgetary restrictions. \$5.33 billion was invested through 2003 to support research and development (38%), to promote e-government (20%), to enhance human resource development in the ICT sector (18%), to promote broadband infrastructure (15.1%), to build infrastructure in ICT industries (7%), and to implement standardization (3%). Second, the ministers were appointed from outside the government. Five<sup>88</sup> out of the eight ministers who were appointed under the liberal government (1998-2007) came from technological institutes or related industries such as electronics, software, and telecommunications services. This was unusual because ministers in the Korean government were traditionally high-ranking bureaucrats who had passed the civil service examinations. The liberal government thought that ministers who had a strong technical and business background could successfully lead the MIC as the control tower for promoting the information-based economy<sup>89</sup>.

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<sup>86</sup> At that time, there were six main telecommunications and broadcasting Acts in Korea: the Telecommunications Basic Act, the Telecommunications Business Act, the Telecommunications Construction Business Act, the Cable TV Broadcasting Management Act, the Basic Act on Informatization Promotion, and the Radio Waves Act.

<sup>87</sup> In 2002, the IPF reached a \$7.78 billion budget: the government budget (\$3.06 billion), private firms' contributions (\$3.58 billion), and miscellaneous profits and interest receipts (\$1.13 billion).

<sup>88</sup> Bae Soon-Hoon (Mar 1998-Dec 1998) was a former CEO of Daewoo Electronics. Nam Gung-Seok (Dec 1998-Feb 2000) was a former CEO of Samsung SDS. Yang Seong-Taek was a former head of the Electronics and Telecommunications Research Institute (ETRI). Lee Sang-Cheol (Jul 2002-Feb 2003) was a former CEO of Korea Telecom. Jin Dae-Je (Feb 2003 - Mar 2006) was a former CEO of Samsung Electronics.

<sup>89</sup> For instance, Jin Dae-Je (Feb 2003-Mar 2006) was the longest-serving minister of information and communication both in the cabinet of Roh Moo-Hyun and in the history of MIC. In his interview with the press, the

During this period, the MIC control tower planned and implemented the nation's ICT-based developmental strategies such as 'cyber-Korea 21,' 'U-Korea,' and 'IT 839.' Wireless telecommunications was a crucial component of these national projects. During this time period, the Korean government chose broadband Internet and wireless telecommunications as two wheels of Information-based growth in both the service and equipment markets. Among these alternatives, the wireless telecommunications sector was more suitable for creating the virtuous circle in the ICT industry. It was relatively easy to facilitate wireless equipment exports and to accumulate technological competitiveness by means of intensive national R&D project. Korea had already experienced the successful development of CDMA in the late 1990s. For this reason, five out of the eight services were selected on the basis of their potential to create demand and synergistic effects as part of the IT839 strategy. They included wireless telecommunications such as Wireless Broadband (WiBro), Digital Multimedia Broadcasting (DMB), Telematics, RFID, and W-CDMA. The detailed policies of the wireless telecommunications industry during this period will be examined later in this chapter.

#### *3.2.4. Reform of corporate sectors but unabated power of Korean conglomerates*

The reform of Korean conglomerates, *chaebol*, was the main thrust of the post-1997 reform program in the corporate sector. The IMF called for a series of corporate reform programs to solve the 'immoral' overinvestment problems of *chaebol*, accusing them of being a major cause of the crisis. Given these circumstances, the objective of *chaebol* reform was to reduce the economic risks for the entire economy by lowering financial risks in the corporate sector. Three major measures for reforming *chaebol* were implemented: (a) radical reductions in corporate debt-equity ratios, and (b) the 'big deals' and workout program, and (c) changes in corporate governance structures. The first two were intended to deal with the symptoms of problematic *chaebol* structures and the last was an attempt to change the structure supposed to have created the symptoms.

The corporate reform measures were seemingly successful. First, the government mandated that the *chaebol* must lower their debt-equity ratios to below 200%. Top five *chaebol*, including Samsung, LG, and SK, reduced their debt-equity ratios from 472.9% in 1997 to 162.0% in 2000. The debt-equity ratios of the 30 largest *chaebols* were also reduced from 512.8% in

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presidents persuaded him to serve as minister, saying, "Please, create the future growth engine for the coming ten, fifteen years. You are the right person" (Gawk, 2006).

1997 to 171.2% in 2000 (Shin & Chang, 2003, p. 85). Second, the government ‘encouraged’ business swaps between the five largest *chaebols* in order to push them to focus more exclusively on their core businesses. The ‘big deals’ targeted sixteen affiliates of the five first-tier *chaebol* in eight major business sectors such as automobiles, electronics, semiconductors, and petrochemicals. The ‘workout’ program, a bank-sponsored restructuring process, was devised for the sixth through the thirtieth largest *chaebol*. The big deals and workout program rapidly reduced the number of affiliates of the top thirty *chaebol*, as ranked by sales revenues, from 821 in 1997 to 544 in 2000 (Seri, 2000, p. 127). Third, after the crisis, the government strengthened punishment on unfair internal transactions between *chaebol* and their affiliates, mandated that one-quarter of the members of the boards of directors must be outside directors, and revised the external audit law to mandate that *chaebol* report their consolidated financial statements.<sup>90</sup>

However, the corporate sector reforms did not result in substantial change. More particularly, the big deal was a total failure. None of the proposed big deals were conducted by means of business swaps. Instead, most were one-sided takeovers or simple mergers. For instance, a proposed deal in automobile/electronics was business swap between Samsung Motors and Daewoo Electronics. The deal failed. Samsung Motors was sold to Renault in 2000. Daewoo went bankrupt in 1999, Daewoo Electronics was broken up and Daewoo Motors was sold to General Motors in 2001. In semiconductors, Hyundai Electronics took over LG Semiconductors in June 1999, and the new merged entity, Hynix, became the third largest semiconductor manufacturer worldwide. The problem was that Hynix soon faced serious liquidity problems and fell under creditor management in 2001. The failure of reform measures reflected that the power of Korean conglomerates had not decreased under the liberal government. It did decrease shortly after the crisis, but the ratio of the total revenue of the top ten *chaebol* to GDP continued to increase from 49.7% in 2002 to 55.7% in 2007.<sup>91</sup>

The promotion of the information-based economy meant that major conglomerates such as Samsung, LG, and SK, which engaged in wireless service and wireless equipment-

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<sup>90</sup> In addition to the changes mentioned above, numerous measures were introduced to reform corporate governance after the 1997 economic crisis (See Table 3).

<sup>91</sup> Source: Bank of Korea’s economic statistics system database (See <https://ecos.bok.or.kr>) and from the Fair Trade Commission’s database (<http://groupopni.ftc.go.kr/>)

manufacturing, achieved profitable growth. For instance, the consolidated revenues of Samsung Electronics and its affiliates in 2007 was 172.5 trillion won, while the conglomerate garnered 86.4 trillion won in 1998.<sup>92</sup> LG group achieved revenue growth that increased from 60.9 trillion won in 1998 to 110.9 trillion won in 2007.<sup>93</sup> SK group increased its revenue from 47.6 trillion won in 2001 to 70.4 trillion won in 2007.<sup>94</sup> These three *chaebol* were the main beneficiaries of information-based economic growth. The unabated economic power of these IT conglomerates exerted considerable influence on wireless telecommunications policy, which will be explored later in this chapter.

### 3.3. Wireless telecommunications policies under the liberal government

The political economy which surrounded Korean wireless telecommunications during the liberal government period (1998-2007) had two primary orientations: neoliberal and developmental, which intermingled. The neoliberal agenda, which began to find acceptance during the Kim Young-Sam government (1993-1997), and was amplified during the economic crisis, was a major influence on wireless telecommunications policy. The Keynesian recovery strategy used by the liberal government restored the developmental tradition that government-led projects should initiate or create the virtuous circle of industry. This section explores how the mixed characteristics of the Korean political economy shaped the major wireless telecommunications policies and examines the nature of the power relations in the context of the policy-making process. This section examines three cases of Korean wireless telecommunication policy during the liberal government period: the privatization of Korea Telecom, R&D projects and the licensing process of IMT-2000, WiBro.

#### 3.3.1. *Privatization of Korea Telecom: Government efforts to maintain power over KT*

Korea Telecom (KT), the Korean government-owned telecommunications conglomerate, became fully privatized in May 2002, when the government sold off its remaining 28.36% stake in KT. KT once took a crucial role in building the Korean telecommunications infrastructure and

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<sup>92</sup> Source: 1998 and 2007 Consolidated Audit Reports of Samsung Electronics, retrieved from the Financial Supervisory Service database (<http://dart.fss.or.kr/dsab002/main.do#cal1>)

<sup>93</sup> In 2005, LG group was divided into three different conglomerates: LG, GS, and LS. 110.9 trillion won is total sum of three groups. Source from the Fair Trade Commission's database (<http://groupopni.ftc.go.kr/>)

<sup>94</sup> Source: Fair Trade Commission's database (<http://groupopni.ftc.go.kr/>)

was the dominant player in several service markets<sup>95</sup>. The full privatization of KT was indicative of a remarkable changeover in the Korean telecommunications industry and its policies. Moreover, it was a notable event in the sense that Korea finally adjusted to the neoliberal pressures exerted by the US government and international organizations such as IMF after long delays intended to put off full privatization.

The major pressure in favor of the full privatization of KT came from foreign players. Although the privatization of KT had been gradually implemented since 1987<sup>96</sup> due to pressure from the US government, and international organizations such as the WTO and transnational companies<sup>97</sup>, the IMF bailout program triggered the full privatization of KT. The IMF set neoliberal conditions for the bailout and the privatization of government-owned companies was a major public sector reform. The goal of the requirement was to eliminate investment restrictions in the telecommunications sector. The result was that the government announced the first and second Public Enterprise Privatization Plans in 1998, which included the full privatization of KT. Foreign ownership limitations on KT were deregulated from 20% to 33% in September 1999. The Telecommunications Business Act was revised to increase the foreign ownership ceiling from 33% to 49% of KT in September 2000. After a series of measures such as the issuance of American depositary receipts (ADR) and a strategic alliance with Microsoft, the government sold 43.64% of its shares in foreign markets and its share fell to 28.36% immediately before the completion of privatization (See Table 4.)

After selling nearly half of its shares to foreigners, the government wanted to sell the remaining shares to domestic players by distributing the shares in a balanced manner. This was the case because the government wanted to maintain some degree of managerial control over KT by separating ownership and management. For this reason, the government decided to separate the buyers of the remaining 28.36% into three groups: strategic buyers (15%), individual and institutional buyers (7.66%), and KT employees (5.7%). The government expected Korean

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<sup>95</sup> As of May 2002, KT group had a 96.9% of the fixed-line local phone service market, 85% of the long distance market, 66% of the international telephone service, 73.2% of leased lines, 49.6% of broadband Internet, 32.71% of wireless service, and 89.7% of the trunked radio systems service market (Sources: the MIC and KT).

<sup>96</sup> After the government announced the privatization of KT in 1987, 28.79% of KT stock was sold to domestic investors through 7 times sell-offs before KT was listed on the stock market in December 1998.

<sup>97</sup> The US government and telecommunications industries were eager to expand their national telecom businesses into international businesses by selling their new equipment in international markets. Thus, they pushed Korea to privatize KT in order to promote easy sales for new equipment (See Jin, 2011, pp. 163-165).



conglomerates such as Samsung, LG, and SKT to each take a 5% of the 15% stake available to strategic buyers. The government prohibited any single *chaebol* from owning more than 5% of the shares of KT. However, the government removed the 5% barrier immediately before the public offering because only a few of the *chaebol* had the financial ability to raise the \$2.3 billion in cash necessary to purchase the shares.

The result of the public offerings in May 2002 was entirely unanticipated by the government and industry. Contrary to the government's plan and other business players' expectations, SKT bought 11.34%<sup>98</sup> of the shares and became the largest shareholder of KT. Before the bidding, SKT repeatedly denied its participation in the privatization of KT, saying "there have been rumors spreading about our participation, but we have no interest in the privatization of KT" (Lee, 2002). The government expected that SKT would buy small numbers of shares even if the company did join the bidding. The government pushed SKT to sell its shares of KT to other conglomerates, being concerned that SKT, already the dominant player in the wireless service market before the privatization of KMT, would become a telecom giant that was the dominant market power in almost every telecommunications service market including fixed telephone lines and broadband. The government strongly criticized the company and requested that SKT sell its KT stock until it became the second largest stakeholder.<sup>99</sup>

However, SKT delayed the sale of KT shares, arguing that the company had followed the sales rules and that there had been no illegal activity. KT then suggested a swap deal, in May 2002, for the purpose of exchanging the shares of KT that SKT had bought with the shares of SKT that KT already owned. SKT initially refused this suggestion, and expected to expand its business to fixed-line and broadband, which were outside the wireless industry. Sang Cheol Lee, the former CEO of KT, was appointed to become the Minister of Information and Communications in July 2002. SKT was unable to resist the government's pressure and accepted the swap deal. SKT exchanged its 9.64% stake of KT for KT's 9.27% stake in SKT in January 2003. This swap deal completed the privatization of KT in accordance with the government's

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<sup>98</sup> According to "the KT Share Sales Rule" the government set, strategic buyers who purchased a stake of at least 0.5% could buy exchangeable bonds (EB) worth up to twice the number of shares they bought. SKT bought a 3.78% share and a 7.56% share in forms of EB.

<sup>99</sup> President Kim Dae-Jung commanded the MIC to nullify SKT's purchase of KT's stake. The minister of information and communications, Seung-Taik Yang, publicly criticized SKT's aggressive movement, saying "the public offering of KT shares was successful, but SKT's unexpected bidding overshadowed the success. If SKT does not sell the share, we cannot help thinking that SKT is challenging the government's policy" (Park, 2002).

intention of preventing any single private corporation from owning KT and maintaining the government's control of KT.

The privatization of KT was a representative policy that accepted neoliberal pressure from foreign and domestic players. Up to 49% of the stock shares in Korea's largest telecommunications company was sold to foreign investors. Facilitating privatization involved an intensive restructuring program. 13,394 employees were laid off in 1999. After privatization, there was a limit on investing in building enhanced infrastructure due to the hefty dividends offered to foreign investors. Nonetheless, the developmental orientation of the Korean government caused the government to attempt to develop 'ownerless' corporate governance during privatization. The government could maintain some control over KT by distributing the shares of KT to foreign investors, domestic conglomerates, individuals and domestic institutional investors. Within the context of the Korean political atmosphere, KT and POSCO were often called 'privatized public enterprises.' In terms of ownership, KT was fully privatized and was no longer a public enterprise, but the mechanism of CEO appointment, in which political pressure is a crucial factor, left room for government intervention in KT's management.

### *3.3.2. Government-led R&D and the licensing process of IMT-2000 (1998~2002)*

The IMT-2000 R&D project shows the developmental orientation of the government's wireless telecommunications policy. IMT-2000<sup>100</sup> is the abbreviation for International Mobile Telecommunication-2000, which indicates multimedia mobile services, often known as 3G. IMT-2000 pursued global roaming, but was different than 2G. The adoption of the 2G technical standard was determined by national circumstances and technological capability, the global standard became important in the adoption and development of 3G. The liberal government was eager to develop 3G technology and promote related industries, and continued to give top priority to IT-based economic growth.

The IMT-2000 project sought to create a 'virtuous circle' in the mobile broadband industry. The goals were: (a) to develop a home-grown technology and standard, (b) to induce competition and growth in the service industry, (c) to promote increased demand for high-end equipment and handsets, and (d) to increase exports based on enhanced competitiveness in the manufacturing sector. The government initially intended to promote the IMT-2000 technology

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<sup>100</sup> Before the ITU called 3G mobile broadband technologies as the IMT-2000, it was often called the Future Public Land Mobile Telecommunications System (FPLMTS).

based on the traditional model, which led to the successful development of TDX and CDMA. The MIC established the long-term plan known as ‘the Research and Development Plan for Next Generation Mobile Telecommunications,’ and organized ‘the Committee on the Development of Next Generation Mobile Telecommunications Technology’ in 1997 (KIICA, 2004, p. 36). The project was co-funded by 99 members of the committee, including the government, the research institute (ETRI), device manufacturers (Samsung and LG) and service providers (KT, SKT, and LGT).<sup>101</sup> The committee was expected to coordinate the entire project.

Unlike previous national projects such as TDX and CDMA, the changing political economic environments in wireless telecommunications in Korea made a difference in the implementation of the IMT-2000 project. First, Korea joined the World Trade Organization (WTO) in January 1995, at which time direct government intervention in the telecommunication sector became restricted under the WTO agreements. For instance, if the government unilaterally determined a technical standard and mandated that business players adopt it, doing so might lead to trade friction with other countries according to the WTO agreements<sup>102</sup>. Moreover, the government could not easily provide funding for R&D projects, because the WTO rules intensified constraints on government subsidies. In previous projects such as TDX and CDMA, the Korean government provided subsidies to industry both during the process of commercialization and the process of initial research and development. Second, telecommunications liberalization and the private sector’s accumulated research capabilities at developing technology decreased the need for government-led projects.<sup>103</sup>

Given these circumstances, the government divided the development process into two parts: R&D and commercialization. The target technology was cdma2000, which is a synchronous mode of IMT-2000 based on 2G CDMA. The government hoped to maintain the experience and momentum accumulated as a result of the success of CDMA. During the R&D stage, ETRI alone developed platform technology and a standard model in order to reduce the

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<sup>101</sup> The main goal of the committee was to develop a homegrown standard for FPLMTS by 1999 and to make the technology into a single international standard in ITU (See *Maeil Kyungje*, 1999).

<sup>102</sup> According to the Basic Telecommunications service Agreement (WTO/BTA), the government shall secure foreign players’ easy access to public telecommunications network in a non-discriminatory way. The Agreement on Technical Barriers to Trade (WTO/TBT) forced the government to guarantee the transparency of technical standard adoption, which can function as a non-tariff barrier to trade.

<sup>103</sup> The ratio of private-sector R&D investment to Korea’s R&D investments rapidly increased from 36.3% in 1980 to 84.0% in 1994 (See KISDI, 2003b, p. 35).

possibility of trade friction as defined by the WTO agreement. After \$60 million was invested and 470 engineers participated in the project, ETRI succeeded in developing the synchronized cdma2000 STP<sup>104</sup> system in December 1999. The commercialization process was conducted in the form of competition between business players in the mobile industry. In March 2000, ETRI transferred the developed technology to consortia, which mainly consisted of carriers and handset manufacturers. An investment of \$100 million by private firms such as Samsung, LG, and Hyundai, led to the successful initial commercialization of cdma2000 1x in October 2000 and cdma2000 1x EV-DO in May 2002.

The MIC was soon confronted with a dilemma due to conflicting interests of private actors during the licensing process of IMT-2000. There are two competing technical standards in IMT-2000: cdma2000 and W-CDMA. The former is the synchronous mode used in the US and Korea. The latter is an asynchronous mode used mainly in Europe and Japan. Cdma2000 was an upgraded version of CDMA that Korea first successfully commercialized and accumulated core technologies as a result of this. On the contrary, W-CDMA was expected to use the same core network as the 2G Global System for Mobile Communications (GSM) that had been deployed worldwide and which had a larger subscriber base than CDMA.<sup>105</sup> Service providers such as SKT, KT, and LGT wanted the MIC to adopt W-CDMA as a national 3G standard. Their rationale was that the greater the revenue derived from global roaming, the broader the business opportunities, and easier the alliance with global carriers they could anticipate when adopting W-CDMA, as compared with cdma2000, due to the dominant market share of GSM in wireless service worldwide. Meanwhile, the MIC and handset manufacturers such as Samsung and Hyundai, except for LG Electronics,<sup>106</sup> argued that dual standards for IMT-2000 should be selected. The rationale for their arguments was that (a) ITU had approved five different standards for IMT-2000 service, (b) cdma2000 would enable faster commercialization than W-CDMA, (c) and the adoption of cdma2000 would make it possible to sustain competitive advantages and

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<sup>104</sup> STP is the abbreviation of signal transfer point. STP acts like a router that relays messages between signaling end-points and other signaling transfer points. In brief, the cdma2000 STP system is a core solution that enables communications in a cdma2000 network.

<sup>105</sup> According to the Cahners In-Stat Group, the number of GSM subscribers reached 68.3% of wireless subscribers worldwide, whereas CDMA subscribers attained only 14.2% in 2002 (See KISDIa, 2003, p. 36).

<sup>106</sup> LG Electronics preferred W-CDMA because the company had a more advanced capability in developing asynchronous 3G than other manufacturers at that time (See Moon, 2000).

know-how acquired from the CDMA development project and facilitate technological exports to South East Asian countries (See Table 5).

After a harsh debate, the MIC announced a technology-neutral policy known as ‘Policies for Licensing IMT-2000 Service Providers’ on July 12, 2000. It would allow the industry to decide on its own which technical standards to adopt. In fact, the MIC was reluctant to abandon its initial plan to adopt cdma2000 as a single standard for IMT-2000, because it sought to maintain an edge in the synchronous platform developed by means of huge investments. There were two types of motivation that led to the dual-standard 3G policy of the MIC. As noted earlier, the MIC was concerned that it might bring about trade friction according to the definitions set up by international rules such as the WTO agreement, should it push a particular technology as a single standard (Song, 2009, p. 168). The MIC took an optimistic view that three consortia, respectively led by KT, SKT, and LGT, would choose different standards. By allowing dual-standards, the MIC expected W-CDMA carriers to enter the large asynchronous international user market and also expected that cdma2000 carriers would be able to provide both a ‘test-bed’ and a domestic market where handset manufacturers could develop their competitiveness in a cdma2000 market (Shin, 2008, p. 1410).

However, the MIC began to intervene again in the licensing process after all three consortia expressed a preference for asynchronous IMT-2000 licenses. The MIC reaffirmed its previous stance - the adoption of standards would depend on the industry’s decision. MIC organized a September 2000 conference, ‘the Conference on IMT-2000 Technical Standard’ in which the MIC, wireless carriers, handset manufacturers, ETRI, and KISDI participated. The conference involved four closed meetings and one public hearing, and aimed to persuade carriers to adopt cdma2000 technology. The MIC used the conference to announce that (a) it would offer incentives to a consortium that would adopt the cdma2000 standard and (b) only two consortia would get licenses for one standard. Despite the announcement, all three of the consortia applied for W-CDMA license. LGT dropped out of the bidding for a W-CDMA license, whereas KT and SKT passed the government administrative screenings for the license. One interesting point is that a non-wireless carrier consortium led by Hanaro Telecom<sup>107</sup> applied for a cdma2000 license, but the MIC dropped its bid. Hanaro Telecom was the second largest carrier in fixed-line and

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<sup>107</sup> Hanaro Telecom was the second largest carrier in fixed-line and broadband Internet service at that time. It created the Korea IMT-2000 Consortium using several wireless paging service providers.

broadband Internet service at that time. It created the Korea IMT-2000 Consortium together with several wireless paging service providers. Given the weak financial capability of the consortium led by Hanaro Telecom, the MIC intended to secure the tripartite competition, which it expected to be accomplished by KT, SKT, and LGT in the wireless industry.

After the first licensing process resulted in a failure, the MIC became involved in more active intervention in the market. The MIC announced ‘the Measure for Balanced Development in IMT-2000 Service Industry’ on January 22, 2001. According to the measure, cdma2000 licensees would acquire priority in choosing spectrum bands and identification numbers and would also receive subsidies from the government for building an IMT-2000 network in rural areas (MIC, 2001, p. 3). This sought to encourage LGT to participate in the cdma2000 licensing process. Despite this measure, LGT did not join the licensing process for synchronous IMT-2000, and demanded that the government reduce frequency fees. The MIC suggested installment payments instead of reduced fees. LGT did not want to abandon 3G business, and accepted the suggestion. The result was that the LGT became the only licensee in the world to operate a synchronous IMT-2000 network in 2GHz band.

LGT delayed launching the cdma2000 service for five years and expressed its hope of returning the license to the government in July 2006. The main reason was that W-CDMA became the dominant standard in the global 3G market, and no equipment manufacturers in the global wireless industry had developed technologies and equipment for synchronous IMT-2000 (Park, 2006). Even Qualcomm, which emphasized the necessity of creating a cdma2000-based network operator for the Korean government and wireless industry, gave up developing a synchronous IMT-2000 chipset. Samsung completed the development of the CDMA EV-DV chipset and related systems in 2003, and attempted to sell it to Sprint and Nextel. Samsung’s effort failed, and synchronous IMT-2000 became a ‘nonviable’ technology (Rhew, 2006). The MIC did not allow LGT to return the license but did cancel the license in July 2006. In cases of license cancellation, the carrier paid a partial license fee, but did not actually use the spectrum. In addition, the CEO had to resign from his post according to the terms of the Telecommunications Business Act<sup>108</sup>. The MIC wanted to stop the license from being returned, stating it would treat

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<sup>108</sup> The Minister of Information and Communications, Roh Jung Hyung, said in his interview with the media, “The intention of Telecommunications Business Act Article 6-2 is to intensify the responsibility of executives in cases of

the case “in accordance with law.” However, the MIC eventually failed to stop LGT from withdrawing from its synchronous IMT-2000 line of business.

The development of the IMT-2000 in Korea was initially driven by the government’s developmental policy orientation. The government did not abandon its developmental model, which sought to create a homegrown technology and promote the Korean wireless telecommunications industry. As noted above, the government took on a leading role in developing 3G mobile broadband technology. However, unlike previous national projects such as TDX and CDMA, the licensing process of IMT-2000 shows that neoliberal globalization and the growing power of private actors restricted the government’s role in the policy-making process. The government pushed the IMT-2000 policy based on Korean-style developmental logic, but partly failed to coordinate the conflicts of interests among wireless carriers and device manufacturers. Contrary to the government’s initial plan, asynchronous IMT-2000 technologies and systems, which were developed by private actors, was adopted as a national standard for 3G in accordance with the interests of wireless carriers.

### *3.3.3. Government-led development and standardization of WiBro (2002-2007)*

In addition to the IMT-2000, the WiBro was an exemplary developmental project in the wireless telecommunications sector under the liberal government. Wireless Broadband (WiBro) is a portable Internet service, often known as 3.5G communications service, which Korea developed, and led the standardization of, in the world market. Using the 2.3GHz frequency band, WiBro provides users with seamless Internet service with various terminals, including laptops and handsets, while moving at 120 km/h (Lee, et al., 2009). This section focuses on the role of government and interests of business players, and examines the two main policy processes that were in play during technology development and international standardization.

The government took a leading role in developing WiBro technology. It was motivated to develop a fundamental technology for next generation wireless broadband service. WiBro was designed as a breakthrough that would help Korea create a new business sector and exceed the boundaries of its previous success in the IT industry. First, the saturation of the broadband and 2G-based mobile voice market in Korea required a new type of momentum for the wireless broadband market. Second, despite the successful commercialization of 2G CDMA, Korea did

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license cancellation. Immediately on receiving the cancellation, LGT CEO should resign from his post” (See Rehw, 2006).

not possess “technological independence” and had to pay considerable royalties to Qualcomm because the company possessed the fundamental patents for CDMA. Third, as noted above, the government finally failed to vitalize the 3G market by means of cdma2000, a homegrown technical standard, due to the resistance from private actors, particularly wireless carriers, in the wireless telecommunications industry.

WiBro was a major component of the IT839 strategy. The government declared the IT839 Strategy to be a new long-term plan to consolidate the world leadership position of the domestic IT industry in 2004. The plan sought to “open the era of \$20,000 GDP per capita” by promoting the Korea’s IT competitiveness in the global market. This consisted of three types of targets in terms of services, infrastructure networks and fundamental technologies (MIC, 2004a). The plan was based on a developmental model that promoted the virtuous circle of the IT industry “by organically linking those three areas and creating a corresponding future growth engine” (Chin & Rim, 2007, p. 33). WiBro in particular was expected to become a next generation growth engine that would generate manufacturing value of \$12.3 billion and an added value of \$9.3 billion that would also induce various application services (KISDI, 2005)

Given these backgrounds, the MIC initiated the national WiBro developmental project in 2002<sup>109</sup>. During the first stage, the MIC sponsored ETRI, a government-funded research institute with major achievements in electronics and telecommunications, in order to develop fundamental technologies related to WiBro. During the WiBro R&D project, the MIC paid a lot of attention to the concerns of other countries’ - such as the US- claims that the project was a violation of WTO rules regarding government subsidies.

During the first stage, ETRI alone took charge of developing a standard for high-speed portable Internet (HPi) service by means of a research contract in order to “reduce the risk of WTO litigation” (MIC, 2006). ETRI successfully completed the design of the WiBro system architecture and the structure of terminals that included high-speed packet modem by investing \$10 million in 2002. The MIC continued the technological development of standardization and commercialization in the form of a private sector-led project. It encouraged business players, including Samsung, KT, SKT, and Hanaro Telecom, to join the project by providing them with

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<sup>109</sup> The development of WiBro technology was first implemented in 2002 under the E-Korea Vision 2006 (2002-2006). Later, the IT839 arranged and consolidated scattered projects in an organized manner.



HPi technology developed by ETRI. During this stage, the private actors who participated in the HPi project invested \$39 million<sup>110</sup> in the project from 2003 to 2005 (MIC, 2006).

One interesting point is that both the government and the private sector interacted actively and horizontally while working on the WiBro project, instead of engaging in hierarchical cooperation as had been the case in the previous developmental projects. For instance, ETRI and Samsung closely worked with each other at various stages of development, from concept development to final commercialization. Samsung initially dispatched 30 engineers to ETRI to collaborate on creating technical specifications and a design system architecture in 2003. In 2004, ETRI needed additional funds for the research. Samsung quickly provided ETRI with additional funding of \$3 million to support ETRI's research. This sort of close cooperation was possible because the government acknowledged that the increasing financial and research capability of private firms such as Samsung and intended to use it. Samsung wanted to rapidly obtain core technology related to WiBro and become a 'Qualcomm' in the global wireless broadband market.

After successfully completing the development of the WiBro prototype, the government and private actors made a concerted effort to set Korea's homegrown technology as the international standard. The first step occurred when MIC announced in 2002 that it would adopt WiBro specifications, as defined by the Telecommunications Technology Association (TTA), as a single national standard for portable Internet service. In June 2004, TTA Project Group 302 selected the technical specifications, which had been proposed by ETRI/Samsung, as the Phase 1 Standard for WiBro.

However, the US Trade Representative (USTR) expressed the concern that proposed single-technology product standard in Korea for wireless broadband communications would create unnecessary barriers to trade, which WTO/TBT prohibits, and listed Korea as a key country of concern in April 2004 (USTR, 2004). At that time, the US telecommunications industry had recently developed WiMax<sup>111</sup>, which is based on fixed wireless local area network

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<sup>110</sup> According to the ETRI, Samsung invested \$27 million and carriers, including KT, SKT, and Hanaro Telecom invested \$12 million into the HPi project (See [http://m.etri.re.kr/html/not/not\\_01020100.jsp?no=2091&pageNum=40](http://m.etri.re.kr/html/not/not_01020100.jsp?no=2091&pageNum=40)).

<sup>111</sup> Worldwide Interoperability for Microwave Access (WiMax) refers to interoperable implementations of the IEEE 802.16 family of wireless-networks standards developed by the WiMAX Forum, just as Wi-Fi refers to that of the IEEE 802.11 Wireless LAN standards ratified by the Wi-Fi Alliance.

(LAN) technology, IEEE 802.16. The USTR judged that WiBro to be a similar technology that competed with WiMax and was concerned that the national standardization of WiBro would exclude US suppliers from the Korean market.

In reacting to this pressure, the Korean government modified the initial plan that intended to propel the international standardization of WiBro using independent technical specifications. During the two regularly scheduled trade meetings with the US government in June 2004, the MIC explained to the partner that it was making an effort to establish a WiBro standard that would comply with the WTO rules and eliminate the USTR's concern (MIC, 2004b, p. 5). The modification sought to enhance the compatibility of the WiBro standard with IEEE 802.16, which WiMax adopted as its base standard. WiMax was initially designed to enable "the delivery of last mile of wireless broadband access as an alternative to cable and DSL" (WiMax Forum, 2008). The difference is that WiBro was designed to boost its mobility as a 3.5G mobile communications, not as a form of fixed communications. In collaborating with ETRI and Samsung, TTA tried to match the previously-established Phase 1 Standard for WiBro with IEEE 802.16 in 2004 and 2005.

After reducing the risk of trade friction with the US, the MIC and Korean wireless telecommunications industry actively propelled the international standardization process for WiBro. They recognized that increasing interactions with global players and intensified neoliberal norms such as WTO/TBT made the passively protectionist policy no longer effective. The alternative strategy was to actively participate in international standardization, make a homegrown technology into one of the global standards, and expand the market so that Korean equipment manufacturers and carriers could easily obtain access.

Under this strategy, ETRI and Samsung actively participated in IEEE 802.16 Task Group e (TGe) that developed an amendment to IEEE 802.16 in order to enhance its mobility. Samsung took a leading role in the Task Group. Samsung successfully promoted a strategic alliance with Intel and their collaboration led to the participation of other major companies, including LG, Motorola, Nortel, Huawei, and ZTE, in IEEE 802.16 standardization, which strengthened the cooperative relationship between the participants (Ju & Son, 2006). In December 2005, the amendment of the WiBro standard was approved as an international standard for mobile WiMax (IEEE 802.16e).

After WiBro was selected as an IEEE standard, the government strategically supported the international standardization of WiBro through ITU. After the ITU radio communication sector (ITU-R) began discussions for standardizing global wireless broadband access in 2005, the MIC dispatched experts from industry, research institutes, and academia to standardization meetings, which were organized by an ITU-R study group (SG) and a working party (WP). Given these efforts, the WiBro standard (TTAS.KO-06.0082/R1) was approved as one international standard for mobile-broadband wireless access (Mobile-BWA) during ITU-R SG8 and ITU-R WP8A in 2007.

Despite the success of technological development and global standardization, the government later failed to bring about sizable growth of the WiBro market in Korea. This meant that only the first step - developing a homegrown technology and setting standards - out of the four steps necessary for creating a 'virtuous circle' in the industry had been accomplished. For instance, the MIC forecast when it gave licenses to carriers that the Korean WiBro market would rapidly increase from an estimated 0.79 million subscribers in 2006 to an estimated 9.29 million in 2011 (HANAI, 2007, p. 16). In contrast to these rosy expectations, the number of actual WiBro subscribers in Korea reached only 0.17 million as of the end of 2008 (KISDI, 2011, p. 16). The reasons for this can be found in the nature of the global technological competition between mobile WiMax and Long-Term Evolution (LTE), the lack of a robust business model for WiBro, and, more importantly, the conflicting business interests of wireless carriers and manufacturers.

WiBro found it difficult to attract market attention because its business model had limitations as a wireless broadband service. First, although it had been designed specifically for cell phone use, WiBro was mainly used to access the Internet on laptop computers, and it had lacked an attractive wireless handset line-up and applications since its initial release. As regards Internet access on laptops or personal computing devices, Wi-Fi<sup>112</sup> infrastructure, an efficient and inexpensive substitute for WiBro, and had already been built nationwide in Korea. In January 2010, there were 12,815 Wi-Fi hotspots, 1.65 million access points built by carriers, and 3.15 million access points installed by individuals (Park, 2010, p. 62). Furthermore, the W-

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<sup>112</sup> Although WiBro provides wireless broadband connectivity on the go, Wi-Fi was often regarded as a substitute for WiBro, given that most users usually accessed the Internet on their laptop computers in fixed locations such as offices, homes, schools, and cafés.

CDMA network had already been built and was widely used for 3G data service in Korea. The LTE had widely been adopted for 4G service to the extent that 424 operators in 126 countries were investing LTE as of May 2013.<sup>113</sup>

However, the most influential factor in the slow growth of the WiBro market in Korea was that private actors in the Korean wireless industry failed to actively invest in WiBro service. In April 2005, Hanaro Telecom<sup>114</sup> gave up its license for WiBro due to concerns that the considerable investments required would fail to produce an appropriate financial return. Newbridge and AIG consortium, the largest shareholders, turned a cold shoulder toward WiBro investments and requested that Hanaro Telecom concentrate on the broadband Internet market (Kwon, 2005). SKT made the business model of WiBro unattractive. The company strongly opposed the use of WiBro for mobile VoIP concerning market cannibalization. SKT did not execute an active marketing program and facility investments for WiBro.<sup>115</sup> This was the case because SKT decided to concentrate on High-Speed Downlink Packet Access (HSDPA), an enhanced 3G data technology that had evolved from W-CDMA, rather than invest in WiBro. KT was more active in WiBro investments and marketing because it intended to overturn SKT's dominance in the mobile service market. However, there were limitations in KT's position. KT was concerned that the revenues of its mobile subsidiary, KTF, would rapidly deteriorate if KT would aggressively invest on WiBro network and marketing. In addition, the lack of a robust business model for an independent wireless service caused KT to position WiBro as a complementary service for broadband Internet, Wi-Fi, and W-CDMA. The stagnant growth of WiBro in domestic market, and the emergence of LTE in the global market, led Samsung to reduce its investments in WiBro development. Criticism increased in the manufacturing industry. For instance, a vice president of Samsung said, "we have focused on developing WiBro

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<sup>113</sup> Source: Global Mobile Suppliers Associations (See <http://www.gsacom.com/>)

<sup>114</sup> The MIC gave WiBro licenses to KT, Hanaro Telecom, and SKT in January 2005. In fact, the MIC requested that KT and Hanaro Telecom return their 2.3GHz spectrum band that was used for Wireless Local Loop (WLL) in coastal areas. The MIC then reallocated the band for WiBro.

<sup>115</sup> SKT got a WiBro license on the condition that it would invest 404.9 billion won to build a WiBro network in 23 cities by the end of 2007. However, SKT invested only 172.4 billion won by the end of 2007 and got 950 subscribers due to the lack of a marketing program (Kim, 2007b).

according to the government policy, but we began to fall behind global rivals in developing LTE.”<sup>116</sup>

To sum up, the development and standardization of WiBro technology in Korea were driven by the government’s developmental policy orientation. Coping with the pressure from the US government allowed Korea to manage to make the homegrown technology one of the international standards for enhanced 3G communications. The fact that business interests were in line with the government’s policy goal facilitated the success of the WiBro project. However, the promotion of the WiBro market was less successful than the initial expectations due to business interests.

#### 3.4. Conclusion: Neoliberal-developmental state, a flexible understanding of the role of the state

In conclusion, the drastic changes in the political economy during the period of the liberal government (1998-2007) shaped the ‘paradoxical’ policy regime in the nation’s economy as well as wireless telecommunications. The economic crisis, which can be understood as a transition failure of the Korean economy during the neoliberal globalization period, pushed the nation to accept the neoliberal tenets - more market and less government - in many areas of the public and private sectors. The result was that Korea developed a more neoliberalized economic system.

Nevertheless, the liberal government took a Keynesian approach in its macroeconomic, social, and industrial policies in order to recover from the crisis. During the liberal government period, two heterogeneous approaches toward economy and society, neoliberal and Keynesian, coexisted in the Korean policy regime. Korea during this period can be defined as a “neoliberal developmental state.” The role of the state in promoting its national economy did not decrease but instead intensified. More particularly, the Korean government took a leading role in establishing ‘information-based economic growth model’ and intensified the power of the telecommunications regulator, the MIC, as the control tower for designing and implementing industrial policies in the information, communications, and telecommunications (ICT) sector.

Three major policy cases, the privatization of Korea Telecom, the development and licensing process of IMT-2000, and the development and standardization of WiBro technology,

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<sup>116</sup> A vice president of Samsung, Ji-Seong Choi, made this acrimonious comment on government policy regarding WiBro at IFA Berlin in 2011 (Ahn, 2011).

reflect that the Korean government actively intervened in industry with developmental goals in mind. During the privatization process of KT, the MIC sought to develop ‘ownerless’ corporate governance in the company, and aimed to maintain its power over the industry. In the IMT-2000 case and the WiBro case, the MIC exhibited a strong developmental policy orientation in creating a virtuous circle in the mobile broadband industry. The Korean state had successful experiences in building virtuous circles in the telecommunications industry in order to promote national economic growth through the development of TDMA and CDMA. The MIC intended to initiate another iteration of a self-reinforcing feedback circle for economic growth. This consisted of (a) technological innovation and the development of the information infrastructure, (b) the growth of the service sector, (c) the growth of the equipments manufacturing sector, (d) increased exports, and (e) additional development of technology and infrastructure. The MIC successfully led the development of technology and standardization in the IMT-2000 case. Furthermore, the MIC became more ambitious in the WiBro case in seeking to establish homegrown technology as an international standard for promoting Korea’s mobile broadband industry.

In all three cases, major private actors such as Samsung, SK and LG acted in the pursuit of their interests. During the developmental stage of new technology and its standardization, wireless carriers and device manufacturers, mainly Korean conglomerates - *chaebol*, often cooperated with the government by actively participating in the projects. However, they often challenged government policy decisions. The conglomerates in the wireless industry were able to increase their power in the Korean market and the global telecommunications market as a result of the ‘information-based economic growth model’ that the government espoused. Ironically, as the power of private actors increased, it became difficult for the MIC to coordinate their corporate interests in a manner consistent with its policy-making process. During the privatization of KT, the MIC got into unexpected trouble that it came close to abandoning its ‘tripartite competition policy,’ when SKT purchased KT stocks in contradiction to the MIC’s plan. During the licensing process of IMT-2000, conflicting business interests eventually led to the abandonment of the homegrown technology, synchronous cdma2000. Although WiBro is an ongoing business in the Korean market, the government failed to produce any sizable growth in the WiBro market.

To recapitulate this chapter so far, the wireless telecommunications policies in effect during the liberal government period (1998-2008) supports my argument that the end of the developmental state thesis is either a bad conceptualization or a misreading of the hybrid character of the Korean policy regime. We need more flexible concepts such as “neoliberal-developmental state” in order to characterize and understand the complicated and ever-changing role of actors and interactions among actors that influence the Korean telecommunications policy landscape. This chapter notes that the role of the state was not reduced, but rather intensified, in initiating industrial policies for the purpose of promoting economic development. At the same time, the increasing power of domestic capital and the pressure from foreign actors meant that the state was no longer a dominant player over business interests. In a manner contrary to both declinists’ and statist’s misreadings of the Korean case, the interactions between the state, transnational forces, and domestic corporations were not static. The interactions among the assorted actors change continuously. Depending on the political economic environments, the constantly changing interactions between actors shaped and dismantled the policy networks that surrounded the Korean wireless telecommunications policy in more dynamic manner.

#### **Chapter 4. The Intensification of the neoliberal regime under the conservative government**

This chapter primarily relies on historical methods and delineates the changes in the political economy of Korea and Korean wireless telecommunications policy under the Lee Myung-Bak government (2003-2008). It examines four policy cases: the approval of mergers and acquisitions, the shift from administrative control to the spectrum auction, the introduction of MVNO, and the licensing of a fourth wireless carrier.

The political and economic environments that a nation faces are dynamic, not static. The Korean economic policy regime, including telecommunications, was transformed into a hybrid type of both neoliberal and developmental state, as Chapter 2 and Chapter 3 revealed. There have also been changes in the role of state and the interactions between the state and the private sector. Under the conservative government (2008-2012), Korea's economic policy regime appears to have become more neoliberal. In Korean wireless telecommunications, the developmental features and government intervention decreased compared with previous administrations, while the private sector acquired more power in the policy-making process. The role of the state appears to have been reconfigured into the role of a 'neoliberal regulatory state,' as some scholars have conceptualized.

Neoliberal ideas spread globally in the 1980s, and governance through regulation became the "ideal" model for the state-society relationship, particularly in politics and economics. This model has been conceptualized as the neoliberal regulatory state. This concept includes the idea that discretionary economic governance is replaced by depoliticized' governance. Rule-bound governance by means of independent regulatory agencies governs the economy instead of the old-fashioned mode of command and control directly exercised by the state (Majone, 1997). The formerly autonomous state retreated from the hands-on approach and gave way to a self-regulating market.

Some revisionist works on neoliberal globalization suggest that the role of state did not decline when facing a neoliberal hegemonic order. Welfare state expenditures in rich countries from 1980 to 1998 reflect that the role of the state did not decrease despite neoliberal changes (Castles, 2004). The state has a persistent neo-mercantilist approach to foreign economic relations, and acted as the catalyst for the internationalization strategies of corporate actors (Weiss, 1998). Empirical works from the revisionist viewpoint indicated that "globalization *per*



se neither undermines the nation-state nor erodes the viability of the welfare state” (Guillén, 2001, p. 254).

This chapter draws on the revisionist perspective and investigates the role of the state as a facilitator of neoliberal transformation of both the national economy and the wireless telecommunications industry. A great deal of academic research has focused on the 1997 Asian economic crisis and its impact on the role of the Korean state and policy landscape. However, there has been little research on the nature of the Korean economic and industrial policy during the period on which this chapter focuses. Few scholars have attempted to analyze the changing Korean state’s role in response to extraneous economic conditions such as the global financial crisis. For instance, Pirie (2012) argues that the large fiscal stimulus package which the Korean state implemented in response to the 2008 global economic crisis represents a “selective limited retreat from neoliberalism.”<sup>117</sup> Furthermore, as regards Korean wireless telecommunication, it is difficult to find scholarly research that closely examined the role of the state and the interactions between the government and the private sector under the Korean conservative government (2008-2013).

This chapter examines the political economy of the Korean wireless telecommunications under the Lee Myung-Bak government (2008-2013). This chapter finds that the wireless telecommunications policy regime during this period became more market-oriented than under the previous government. This chapter finds that the transformation was driven by the government’s neoliberal policy orientation, the Free Trade Agreement, the *chaebol*-based economic growth model, and the dismantling of the IT control tower. This chapter claims that the state took a crucial role in facilitating the market-oriented transformation, which supports business interests in the wireless telecommunications industry. This chapter simultaneously reveals that the developmental tradition remains, despite deep neoliberal changes.

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<sup>117</sup> Iain Pirie has argued that the Korean state abandoned the developmental state model and had already been transformed into the neoliberal state during the 1990s (Pirie, 2005a; 2005b; 2007). His argument on the state of the recent political economy of Korea meshes with his declinist thesis. However, as the previous chapter notes, the Korean political economy exhibited a paradoxical mixture of neoliberal and developmental features rather than purely neoliberal features.

#### 4.1. Political economic environments under the conservative government (2008-2013)

During this period, the changing political and economic environments made the Korean wireless telecommunications policies become more market-oriented. Government intervention in the industry waned on a relative basis, while the autonomy of the private sector waxed. Chapter 3 of this dissertation noted that extraneous demand, which was accompanied by the Asian economic crisis, initially triggered neoliberal reforms in the economic system during the period of liberal rule (1998-2008). Unlike the previous period, domestic politics, meaning the return of conservative rule, was the main driving force that precipitated market-oriented changes in the political economic environments, although the Global Financial Crisis occurred soon after the conservative government came to power. The “business-friendly” conservative government pushed a prototypical neoliberal policy package, including tax reductions, deregulation, and privatization. The free trade agreement with the US further integrated the Korean economy into the neoliberal global economy and accelerated full-fledged liberalization in the telecommunications sector. The increasing economic power of Korean industrial conglomerates, *chaebol*, and the reorganization of regulatory agencies created an environment that brought about market-based policy changes in wireless telecommunications.

##### 4.1.1. Return of conservative government and its “business friendly” orientation

After the ten-year rule of the liberal government, the conservative government returned to power and implemented a prototypical neoliberal policy package that included tax reductions, deregulation and privatization. In December 2007, Lee Myung-Bak, the presidential candidate of the conservative Grand National Party, became the new South Korean president. He was under suspicion of involvement in a stock price manipulation. Nevertheless, he won the presidential election due to his public image of being the so-called “economy president.”<sup>118</sup> Public opinion at that time was unfavorable towards the second liberal government, the Roh Moo-Hyun government due to a real estate bubble, high levels of youth unemployment, increasing social inequality, and ‘stagnant’ economic growth<sup>119</sup>. It is often noted that the economic problems the

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<sup>118</sup> Lee Myung-Bak was a former CEO of Hyundai Construction (1977-1992) before he entered politics in 1992. His successful career as a businessman, which was often mythologized by the mass media, gave him a public image that lent credence to the idea that he could lead an economic revival.

<sup>119</sup> Whether or not the period of ‘liberal rule’ was actually a ‘lost decade’ in terms of economic growth is controversial. The conservative party succeeded in persuading voters that economy was ‘sluggish’, even though average growth rate from 1999 to 2007 was 5.7% (See <https://ecos.bok.or.kr>).

nation faced were the results of market-oriented economic policies brought about during the ‘left-neoliberal’ government era.<sup>120</sup> During the liberal government era, market-oriented reforms both revived economic growth and increased social inequality. Deepening social inequality made many Korean people susceptible to the conservative party’s populist promises of new economic miracles.

After taking power, the conservative government initiated market-oriented economic policies under the slogans “MBnomics,<sup>121</sup>” “business-friendly,” and “advancement” (*seonjinhwa* in Korean). The government declared that it would make the nation’s economy grow 7% per year, increase per capita GDP to \$40,000, and create the 7<sup>th</sup> largest economy in the world (GNP, 2007. p. 19). In order to attain these goals, the government implemented a package of neoliberal economic policies. The Lee government engaged in three major types of economic action: tax reductions, deregulation, and privatization, using the rationale of promoting national economic growth.

First, the government reformed tax policies to benefit businesses and the wealthy. It lowered major tax rates and broadened corporation tax exemptions, income taxes, and comprehensive property taxes.<sup>122</sup> The tax cuts were based on the neoliberal idea regarding “trickle-down” economics. The trickle-down economics means that the free market economy increases income for the owners of capital and suggested that the resulting profits would eventually trickle down like water and benefit the poor. Chang (2012) pointed out that the distribution effect is very limited through market mechanisms in comparison with a welfare state. The neoliberal tax reforms under the Lee Myung-Bak government did not produce a measureable trickle-down effect, just as the “supply-side” economic policies of the Reagan Administration deepened the economic inequality in the US and failed to produce measureable trickle-down

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<sup>120</sup> Left-neoliberalism is not an academically established concept. In Korea, the word, ‘left-neoliberal,’ is a term that been used to criticize the Roh government’s policies. The Roh government showed great interest in solving economic inequality by means of economic policies such as the comprehensive property tax. However, at the same time, it attempted to push forward a free trade agreement with the US, accepting the premise that the free market was indispensable to Korea’s economic growth.

<sup>121</sup> The Lee administration’s economic policy was often referred as MBnomics in Korea, just as Reaganomics refers to the neoliberal economic policies promoted by US President Ronald Reagan during the 1980s.

<sup>122</sup> Corporate tax rates decreased from 13%-25% in 2007 to 10%-20% in 2012. Income tax rates were also reduced from 8%/17%/26%/35% in 2007 to 6%/15%/24%/33% in 2012. As regards comprehensive property taxes, the government lowered the rates and broadened exemptions. Source: National Tax Law Information System (See <http://taxinfo.nts.go.kr/>)

effects. Rather, during the period of the Lee government, the poor paid more taxes than they did in the previous government. The total taxes paid by the lowest 20% of income earners increased 7.2% from 2003 to 2007, while it increased 43.5% from 2007 to 2011. On the contrary, the rate of increase in the tax burden of the top 20% of income earners was 63.7% from 2003 to 2007, but it was 13.2% from 2007 to 2011 (Seon, 2012). The conservative government reduced direct taxes for businesses and the rich, and increased indirect taxes on the poor to counterbalance the loss of government tax revenue from corporations and the rich. Furthermore, the Korean conglomerates were the biggest beneficiaries of the neoliberal tax policy. According to the National Tax Service (NTS), although *chaebol* affiliates with total assets exceeding \$5 billion constituted only 0.33% of all Korean corporations, they received tax relief amounting to \$5.4 billion, 58.55% of entire corporate tax exemptions in 2011 (Roh, 2013).

Second, the government propelled deregulation to create more favorable conditions for the nation's industrial conglomerates - *chaebol*. The crucial deregulatory measures were (a) to ease "separation between industrial capital and financial capital" and (b) to abolish equity-investment limits. Korea had long maintained the principle of "separation between industrial capital and financial capital" since the 1960s, although the *chaebol* always sought to have financial subsidiaries in order to make their investments, business expansions, and capital accumulation easier. The principle was that the *chaebol* were restricted from possessing controlling ownership of financial institutions, particularly banks<sup>123</sup>. This was the case because *chaebol* ownership of banks has been regarded as being risky due to their aggressive business strategies (IMF, 2006, p. 37). However, the conservative government eased the separation rule so that industrial capital could own up to 9% of a bank's shares by revising the Financial Holding Company Act in July 2009.<sup>124</sup> In addition, the government abolished the *chaebols'* equity-investment limits among intra-group companies in March 2009. The *chaebol*, including Samsung, Hyundai, SK, and LG, developed a complex "circular" system of cross-shareholding

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<sup>123</sup> The regulation mainly focused on prohibiting *chaebol* from owning any large commercial banks. Thus, *chaebol* could own non-banking financial firms and regional banks. For instance, Samsung had 10 non-banking financial affiliates such as Samsung Life Insurance as of 2008 (See <http://www.ftc.go.kr>).

<sup>124</sup> Deregulation was possible because the government's interests and business demands intersected with each other. The government wanted to privatize large state-owned financial holding companies such as the Korea Development Bank (KDB). Furthermore, it was concerned that an excessive amount of large commercial banks' shares were owned by foreign capital, except for KDB and Woori: Shinhan (51.29%), KB (57.99%), Hana (64.50%), KEB (72.82%), SCJeil (100%), and KCiti (100%) as of January 2009. (See <http://dart.fss.or.kr>).

among their affiliates to bypass the ban on mutual investments between subsidiaries.<sup>125</sup> Given these circumstances, the shareholding limit on *chaebol* was introduced right after the 1997 financial crisis in order to prevent economic concentration and the risk of chain reaction bankruptcies. The conservative government eased or removed these crucial regulations, and the *chaebol* enjoyed more freedom to expand their businesses and increase market dominance.

Third, the conservative government attempted to privatize state-owned huge enterprises in the name of “advancement.” President Lee Myung-Bak’s inaugural speech, emphasized privatization in saying, “the jobs that are not meant for the government shall be privatized.”<sup>126</sup> A series of “public enterprise advancement policies” led the government to decide to privatize 24 state-owned companies in the financial, construction and transportation sectors. The privatization of the Korea Development Bank (KDB) in particular was a core part of the advancement policy. KDB had about \$140 billion in assets in a variety of industries because it bought the shares of bankrupt companies during the corporate sector reform period after the IMF crisis.<sup>127</sup> Thus, privatizing KDB means that a huge part of the public sector would be transferred to the private sector. The first step was that the government restructured the governance of KDB by establishing KDB holding companies in November 2009. According to the government plan, the privatization of KDB was anticipated to be completed by the end of 2013. Although the implementation of privatization plan was slow due to the global financial crisis that began in 2008 (Cho, 2011), it was clear that privatization was a core component of the neoliberal policy package under the conservative government.

To sum up, the conservative government’s political orientation was prototypically neoliberal. In defining the liberal government period as “the lost decade,” the Lee Myung-Bak administration attempted to differentiate itself from them by implementing neoliberal policy packages. The administration gave a high priority to creating favorable conditions for businesses,

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<sup>125</sup> For instance, Samsung Everland holds 19.34% of the shares of Samsung Life, which holds 4.8% of Samsung Corporation, which holds 1.48% of Samsung Everland. The circle continues as Samsung Corporation holds 4.02% of Samsung Electronics, which owns 20.38% of Samsung SDI, which owns 4% of Samsung Everland (Lee, 2008c, p. 445).

<sup>126</sup> Source: translation of presidential inaugural speech on February 25 2008 (See <http://www.mofat.go.kr/>)

<sup>127</sup> As of 2009, KDB owns a large number of shares of major companies: Daewoo Shipbuilding & Marine Engineering (31.3%), Daewoo Security (39.1%), Korea Electric Power Corporation (30.0%), Korea Aerospace Industries (30.1%), GM Daewoo Motors (28.0%), Hyundai Construction (14.7%), Hynix Semiconductor (6.2%), and Hyundai Corporation (22.53%).

particularly *chaebol*, through tax reductions, deregulation, and privatization. The economic policy packages under the conservative government were based on free-market ideology: less government intervention and more freedom for businesses was thought to lead to the growth of national wealth and prosperity.

#### 4.1.2. Korea's accelerated integration into the global economy and FTA

During this period, the Korean economy was further integrated into global economy more rapidly than before. The global economy is based on “financially oriented capitalism” and the international division of production (Volrocx, 1999). Thus, the flow of foreign direct investment (FDI) and trade dependency reflects the degree of a nation’s economic integration into the global market. First, the neoliberal market opening, which intensified after the 1997 economic crisis, enticed FDI to Korea to the extent that annual FDI skyrocketed from \$2.8 billion in 1997 to \$9.28 billion in 2000.<sup>128</sup> Interestingly, Korea’s FDI inflows stagnated in the early and mid 2000s, but increased again under the conservative government: from \$11.7 billion in 2008 to \$16.3 billion in 2012 (See Table 6). The increase of FDI inflows was driven by the government’s neoliberal economic policies, including the reduction of corporate income taxes, the expansion of free trade agreements, wage controls<sup>129</sup>, and the overhaul of legal and institutional devices related to FDI. Second, the Korean economy’s foreign trade dependence deepened during the conservative government period. The trade-to-GDP ratio, meaning the sum of exports and imports divided by gross domestic product, increased from 49.9% in 1990 to 92.7% in 2012.<sup>130</sup> Meanwhile, domestic demand contributions to the nation’s economic growth decreased.<sup>131</sup> The country’s high degree of dependence on international trade without robust domestic demand made the national economy vulnerable to a global economic crisis.

It is noteworthy that the conservative government completed the Korea-US Free Trade Agreement (KORUS FTA) in December 2010. The negotiations for the KORUS FTA first began under the liberal government. After the Asian economic crisis, the belief that sustainable

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<sup>128</sup> Source: Bank of Korea’s economic statistics system database (See <https://ecos.bok.or.kr>).

<sup>129</sup> According to the Ministry of Employment & Labor, the average annual increase in the minimum wage rate under the Lee Myung-Bak government was 1.4%, the lowest increase rate ever, compared with previous governments: the Kim Young-Sam government (3.1%), the Kim Dae-Jung (5.5%), and the Roh Moo-Hyun government (7.7%) (See Park, 2012).

<sup>130</sup> Source: Bank of Korea’s economic statistics system database (See <https://ecos.bok.or.kr>).

<sup>131</sup> Domestic demand contributions to GDP growth from 2001 to 2012 averaged 47.0%. It was reduced by 17.2% compared with the rate from 1991-2000 (See Cheong & Nam, 2013).

economic growth could be encouraged through bilateral regionalism became widespread among Korean policymakers. The idea that depending exclusively upon the global multilateral framework - such as IMF, GATT, WTO, and IBRD - led by the U.S became less popular. Korea began negotiations for a free trade agreement with Chile in September 1999 and went on to complete negotiations with Chile (2003), Singapore (2005), EFTA (2005) and ASEAN (2007).<sup>132</sup>

In June 2006, Korea began negotiations with the US. Korea hoped to become a hub for the East Asian region through the KORUS FTA as means of surviving its “sandwiched” economic position between China and Japan. Unlike the Korea-Japan FTA, negotiations with the US proceeded rapidly and proactively due to the Korean government’s will to become the first country to sign a free trade agreement in East Asia. At the same time, the US government had a strategy for re-empowering political economic hegemony in the region and there was relatively little political opposition to the KORUS FTA in the US (Rhyu, 2011). The US was interested in pursuing the KORUS FTA, and expected that the agreement would serve as a bridgehead for “curbing the rising tide of China’s economic and political influence in East Asia” and reviving US hegemony by generating a domino effect in that region (Manyin & Cooper, 2006, p. 6). The US also sought to make the agreement a gold standard that covered all aspects of trade without exception and become a model for other countries. The US expected the FTA to “trigger a tectonic shift in regional trade relations and in future potential institutional frameworks” for US-based transnational corporations’ interests (Barfield, 2007)

In Korea, a number of organizations that represented farmers, workers, and other civic groups stood against the government and staged massive anti-FTA demonstrations during the negotiations. Nationalist sentiment among the general public increased, with a particular focus on the opening of the food market, including the agriculture (rice) and the livestock (beef) industries.<sup>133</sup> Meanwhile, the Korean conglomerates, *chaebol*, supported the KORUS FTA, and expected more opportunities and benefits to result from free access to the US market. For instance, major *chaebol* such as Samsung and Hyundai had factories in the US and had already become competitive in the global and domestic markets. They became active supporters of the

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<sup>132</sup> Source: Free Trade Agreement Supporting Portal (<http://fta.korea.kr/kr/situation/sign/01/>)

<sup>133</sup> The Roh Moo-Hyun government, whose primary political supporters were farmers and workers, established a large-scale compensation plan for the agriculture and livestock industries to pacify their opposition. The compensation plan amounted to \$20 billion by 2017 (Ministry of Agriculture and Forestry, 2007).

FTA and sought to make public opinion favorable to the market opening by means of their cooperative relationships with conservative media.

It is important to note that the liberal government initiated the FTA but the Lee Myung-Bak government completed it (See Table 7). Korea signed the FTA in June 2007, but ratification by the National Assembly remained and public opposition to the agreement continued from 2008 to 2010. The Obama administration exhibited a skeptical attitude toward the FTA, and it became necessary to modify the original agreement through additional negotiations.<sup>134</sup> During these additional negotiations, the conservative government made concessions to the US government's demand regarding core issues such as beef, automobiles, labor and environment. The Korean government thought that a failed agreement would be “a setback to the political and security relationship” and the US took advantage of this concern<sup>135</sup> (Brooks, Ikenberry, & Wohlforth, 2013). The conservative government was confronted with massive civic protests such as candlelight vigils in 2008 regarding this concession. However, despite the resistance from the public and the opposition party, the ruling GNP railroaded ratification of the KORUS FTA in a surprise plenary session of the National Assembly in November 2011 (Hwang, 2011).

The completion of the FTA with the US integrated the Korean economy more closely into the neoliberal global economy. First, with the FTA in place, Korean conglomerates had a significant opportunity to “expand their economic territories”<sup>136</sup> (Cheong, 2013). It is clear that the FTA facilitated exports of automobile, electronics, and wireless devices, which had been Korea's major export items produced by *chaebol*. In addition to benefiting domestic-based transnational corporations, the FTA institutionalized favorable conditions for transnational capital by restricting national sovereignty in public policy. For example, investor-state dispute settlement (ISD), which grants foreign investors the right to initiate legal proceedings against a national government under international law, was included in the KORUS FTA despite

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<sup>134</sup> In addition, the US Congress postponed ratification of KORUS-FTA, mainly due to labor union opposition in the US and disagreements concerning automobile and beef imports (Asia Monitor, 2010).

<sup>135</sup> During the period of conservative government rule, military tensions continuously escalated in the Korean peninsula due to the conservative government's 'hostile' policy toward the North Korea and a series of North Korean bellicose activities such as the experiment with an ICBM in April 2009, the torpedo attack on the South Korean navy corvette Cheonan in March 2010, the bombardment of Yeonpyeong in November 2010, and the experiment with a nuclear bomb in February 2012.

<sup>136</sup> *Chaebols* and conservative media such as *Chosun Ilbo*, *DongA Ilbo*, and *JoongAng Ilbo* often emphasized the term “economic territory expansion” to justify the necessity for the FTA.



vehement protests by opposition parties and civic groups. The indirect expropriation doctrine<sup>137</sup> in particular blurs the line between a legitimate regulation of the host state and an illegal indirect infringement on investors' rights. It means the doctrine may accelerate actual deregulation effects in a host state's public policy when a state attempts to avoid legal conflicts with global investors.<sup>138</sup>

The liberalization of telecommunications was a core issue in the negotiations for the KORUS FTA. During the negotiations, the US focused on the deregulation of the foreign ownership restriction in basic telecommunications service and the removal of government intervention regarding standardization (Choi, 2007). After several refusals and concessions, Korea and the US reached an agreement in telecommunications. It has three major components: service market opening, market-based standardization, and non-interventionist regulatory framework.

First, the FTA was expected to enhance market openness in telecommunications by allowing full-fledged indirect investments. The FTA specifies that Korea shall allow US investors to own up to 100% of facility-based telecommunications service providers by establishing a legal entity in Korea,<sup>139</sup> although Korea was allowed to maintain the current 49% ceiling for two major operators, KT and SKT. Second, the FTA restricts the government's power over technical standards. The US requested that service providers be given "flexibility" in their choice of technology. Given that government-led technical standardization has been a core tool of industrial development in Korea, it means that Korea should abandon governmental intervention concerning technical standards intended to develop a certain target technology. The FTA acknowledges the government's right to limit the market's choice of technologies or

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<sup>137</sup> Annex 11-B paragraph 3 of the KORUS-FTA defines *indirect expropriation* as a situation "where an action or series of actions by a Party has an effect equivalent to direct expropriation without formal transfer of title or outright seizure."

<sup>138</sup> Foreign investors, especially under NAFTA, abused the indirect expropriation doctrine to freeze host state's regulations such as environmental protection: (a) *Metalclad Corp. v. United Mexican States*, (b) *Ethyl Corp. v. Government of Canada*, (c) *Pope & Talbot, Inc. v. Government of Canada*, (d) *Waste Management, Inc. v. United Mexican States*, and (e) *Methanex Corp. v. United States of America*. Informed by the investor-state disputes, Annex 11-B paragraph 3-(b) of the KORUS-FTA specifies the exception of the indirect expropriation doctrine when government actions are non-discriminatory regulation "to protect legitimate public welfare objectives, such as public health, safety, the environment, and real estate stabilization."

<sup>139</sup> According to the FTA, the regulatory agencies of both parties can conduct a public interest test on foreign investments, which is to be permitted upon confirmation that the investment does not hinder national security.

standards, but only when this is done to achieve specific public policy objectives<sup>140</sup> and it does not create unnecessary obstacles to trade. In addition, the government must ensure a “transparent and rational” standardization process by offering various opportunities to foreign companies to convey their opinions on the matter. Third, the FTA reaffirmed market-based and non-interventionist policies: (a) to ensure non-discriminatory interconnection by means of the public communications network, (b) to prohibit anti-competitive subsidies, (c) to encourage the efficient use of the spectrum and competition among service suppliers, and (d) to ensure the independence and impartiality of regulatory bodies.

The FTA is one of the major policy environments that precipitated full-fledged liberalization in telecommunications and the nation’s economy. The binding legal force of the KORUS FTA surpasses that of existing Korean domestic laws.<sup>141</sup> There was an increased need to transform the domestic laws and institutions of Korea, which were based on an interventionist policy model, into increasingly market-based laws and institutions. There were 1163 domestic laws that were being enforced as of 2008, and 169 of these laws were inconsistent with the FTA provisions and had to be revised or abolished (Choi, 2009, p. 122). Various domestic policies in telecommunications sector had to be revised in order to be in accordance with the FTA. For instance, in Korea, there were no legal grounds for spectrum auctions before the FTA. However, given that the FTA expressed that auctions were an efficient means of spectrum allocation, the Korean government established a legal ground for auction by revising the Radio Waves Act in 2010.

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<sup>140</sup> According to the Article 14.21 of the FTA, affording protection to domestic industry is not a legitimate public policy objective. It provides four specific categories that can be acknowledged as public policy objectives: (a) to ensure effective or efficient use of the spectrum, (b) to safeguard continuing consumer access to domestic or international networks or services, (c) to facilitate law enforcement, and (d) to protect human health or safety (See [http://www.ustr.gov/webfm\\_send/2791](http://www.ustr.gov/webfm_send/2791)).

<sup>141</sup> Unlike the US, where treaty provision cannot take precedence over an inconsistent provision in federal legislation, in Korea the FTA provisions effectively takes precedence over other conflicting domestic laws. This is the case because, under the Korean legal system, the FTA is regarded as a new law, and a new law usually takes precedence over old laws.

#### 4.1.3. Increasing corporate power and Korean IT-based transnational corporations

The Korean conglomerates' power was relatively restrained under the liberal government's corporatist<sup>142</sup> reforms, and they regained their power as a result of the conservative government's focus on economic growth. Interestingly, the conservative government regarded the *chaebol* as being too small to compete on the global scale, instead of viewing them as big and powerful in the Korean context. This version of "economic nationalism"<sup>143</sup> shifted the economic policy priority from curbing the power of *chaebol* to secure competition in the domestic market to nurturing the power of *chaebol* to enhance national competitiveness in the global market (Kalinowski, 2009, p. 297). The global recession began with the US subprime mortgage crisis and reinforced the strategy of *chaebol*-based growth for economic recovery. Some scholars argue that the Korean state's response to the global financial crisis, such as a large fiscal stimulus, represents a "selective limited retreat from neoliberalism" (Pirie, 2012). However, the conservative government's recovery strategy was not developmental but rather completely neoliberal in the sense that it attempted to overcome difficulties by expanding market power with tax reductions, deregulation, privatization, and the completion of a free trade agreement. The export prowess of *chaebol* was responsible for creating faster economic growth than in other OECD countries after the global financial crisis began (Economist, 2010).

The Korean conglomerates expanded in size and economic power due to neoliberal economic policies and the business-friendly atmosphere among conservative political elites. For instance, the number of conglomerates with assets exceeding 5 trillion Korean won (about \$5 billion), and their affiliates rapidly increased: there were 32 conglomerates with 683 affiliates in 2007 compared with 63 conglomerates with 1,831 affiliates in 2012.<sup>144</sup> Furthermore, the economic concentration of *chaebol* deepened further during the conservative government's

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<sup>142</sup> The market reforms established under liberal rule were, to some extent, implemented through a politically negotiated process between the state, labor, and businesses. We refer to this policy as "corporatism" or "tripartism" (Slomp, 2000, p. 81).

<sup>143</sup> "Economic nationalism" usually involves discriminatory policy packages (Macesich, 1985), protectionism in the form of tariffs, quotas, and regulatory standards barring foreign products from the domestic market (Reich, 1991). For this reason, the developmental state is often regarded as being closely linked with economic nationalism. However, in a globalized economy, there is another version of "economic nationalism" which encourages the growth of domestic firms in global markets by acknowledging the benefits to be derived from the opening of markets and global competition. In this sense, neoliberalism has become a form of contemporary economic nationalism (Helleiner & Pickel, 2005, p. 2).

<sup>144</sup> Source: Fair Trade Commission (See <http://www.ftc.go.kr>).

period. The ratio of the top ten *chaebol*'s total revenues to GDP under the “business friendly” government skyrocketed compared to the “Participatory Government.”<sup>145</sup> The ratio averaged 69.1% from 2008 to 2011, whereas it was 52.6% from 2003 to 2007 (Lee, 2012a). In 2011, the ten largest *chaebol*'s total sales were 946.1 trillion won, which accounted for 76.5% of Korea's GDP of nearly 1.24 quadrillion won (Kwon, 2012a). In 2012, Korea's ten biggest conglomerates constituted more than half the total value of the 1,779 companies on the Korean Stock Exchange (Yoon, 2012). Four major *chaebol*, meaning Samsung, Hyundai, LG, and SK, increased their economic power over the nation's economy.<sup>146</sup> The ratio of their total sales to GDP was 39.7% in 2007, 46.2% in 2008, 47.4% in 2009, and 51.4% in 2010.<sup>147</sup> In 2012, the net profits of the four major *chaebol* reached 80% of the total net profits that the top thirty *chaebol* garnered (Park, 2013).

Among the four major *chaebol*, Samsung, LG, and SK were engaged in the wireless service and wireless equipment-manufacturing industry and achieved continuous growth due to the government's promotion of the information-based economy. The total revenues of Samsung and its 81 affiliates was 256.2 trillion won in 2012, while the conglomerate garnered 150.4 trillion won in 2007.<sup>148</sup> The LG group's sales grew from 66.5 trillion won in 2007 to 115.9 trillion won in 2012.<sup>149</sup> The SK group also increased its revenues from 70.4 trillion won to 157.9 trillion won in 2012.

Samsung and LG become successful transnational corporations in the global wireless telecommunications industry<sup>150</sup>. Samsung Electronics become the number one supplier of mobile

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<sup>145</sup> In Korea, the Kim Dae-Jung administration was often known as the “Government of the People” and the Roh Moo-Hyun administration was known as the “Participatory Government.”

<sup>146</sup> The growth of Samsung's economic power has been salient among the four *chaebol*. For example, the annual revenue of Samsung's family-run businesses exceeded the annual budget of the Korean government in 2009. The annual revenue of the Samsung group, including Samsung Electronics and its subsidiaries, has been over 20% of Korea's annual GDP since 2010. The consolidation of economic power into Samsung led to Korea being referred to as “the Republic of Samsung” in recent years (See <http://ecos.bok.or.kr> and <http://dart.fss.or.kr>).

<sup>147</sup> Source: Fair Trade Commission (See <http://www.ftc.go.kr>) and the Bank of Korea's economic statistics system database (See <https://ecos.bok.or.kr>).

<sup>148</sup> Source: Fair Trade Commission (See <http://www.ftc.go.kr>).

<sup>149</sup> Source: Fair Trade Commission (See <http://www.ftc.go.kr>).

<sup>150</sup> Unlike the success of the wireless equipment manufacturing industry, the wireless telecommunications service industry failed to achieve sizable growth and failed to produce profits from global investments. For instance, SKT pursued its global business strategy in order become a leading player in the global market, and this strategy was modeled on NTT Docomo. Since the early 2000s, SKT invested in developing markets such as Vietnam, Mongolia, and China. It also launched a MVNO, Helio, in the US. However, these efforts were failures. SKT withdrew its

handsets worldwide. Samsung sold 406 million wireless handsets, and its market share was 23.4% in 2012. Samsung's smartphone sales were 215.8 million, or 30.3% of all smartphone sales in the global market in 2012 (IDC, 2013). This surpassed Apple, whose sales reached 135.9 million and which had a 19.1% market share. Samsung took a leading role in promoting the growth of the Android platform. Samsung's growth meant that Android continued to increase its market dominance and accounted for nearly 75% of smartphone sales worldwide in Q1 2013 (Gartner, 2013). Samsung's Android smartphone sales generated \$5.1 billion of operating profits worldwide in Q1 2013, which amounted to a 95% share of all Android smartphone industry profits (Oh, 2013). LG Electronics lagged behind Samsung, and became a major player in the global mobile industry. LG is the fifth largest mobile phone vendor worldwide, and its annual sales were 55.9 million in 2012, when its market share was 3.2% (ICD, 2013). LG sold 102.5 million mobile phones and its market share was 8.4% in 2008 (Gartner, 2009). LG's performance in the global mobile handset market deteriorated. This occurred because LG focused on manufacturing feature phones rather than getting on the "smartphone boat" when computer-like enhanced multifunctional phones emerged in the mid-2000s. LG greatly increased its mobile phone and smartphone sales and became the third largest smartphone vendor in Q1 2013, when it had a 4.8% market share of all smartphone sales worldwide (Gartner, 2013).

The remarkable growth of *chaebol*, who were engaged in the wireless industry, impacted the policy-making process in wireless telecommunications. The conservative government gave top priority to boosting the global competitiveness of big businesses by establishing policy priorities to a greater extent than previous governments. There is a widespread shared belief that under the conservative government, it was better for industrial promotion purposes to respect the autonomy of *chaebol*, the champions in global competition, rather than maintain government intervention in industry. Furthermore, influential was the idea that government-led development in wireless telecommunications under the liberal government eventually resulted in failure due to

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investment in China by selling 3.8% of China Unicom for \$1.35 billion in 2010. It also retreated from the US market by selling its money-losing US operation Helio for \$39 million. The direct cause of these retreats was the state-led telecommunications restructuring in the China case and poor sales performance in the US case. Unlike the equipment-manufacturing industry, global expansion in telecommunications service is usually difficult due to the nature of the telecommunications service industry: huge scale of facility-based industry, emphasis on national security and ownership restrictions, and oligopolistic market structures. These features function as barriers to entry, particularly for mid-size telecommunications corporations such as SKT in comparison with companies with larger amounts of capital such as Vodafone, NTT, etc.

the misjudgments made by government agencies and its incapability to grasp global market/technology shifts. These beliefs and ideas are closely connected to the increasing power of *chaebol* who made the Korean wireless telecommunications policy regime become more market-oriented.

#### 4.1.4. Reorganization of regulatory agency: the dismantling of “IT control tower”

One major change under the conservative government was the restructuring of regulatory organizations. The reorganization of regulatory agencies brought about a market-oriented shift in the wireless telecommunications policy regime and resulted in the retreat of government leadership of industry by dismantling the former IT control tower. In February 2008, the Lee Myung-Bak government established a single regulatory institution that integrated the Ministry of Information and Communication (MIC) and the Korea Broadcasting Commission (KBC) into the Korea Communications Commission (KCC), which regulates both telecommunications and broadcasting. What triggered this integration between regulators who had different regulatory philosophies, frameworks, and orientations<sup>151</sup>?

There was an increasing need for rethinking the traditionally segmented regulatory framework, since the development of technology and business model had blurred the line between telecommunications and the broadcasting sector. The convergence between the two sectors often called for close cooperation between two regulatory organizations. For instance, it was essential for them to back up each other in order to implement terrestrial digital TV (DTV) services, digital multimedia broadcasting (DMB) services, and home network services, which were chosen to be core services in the IT839 developmental strategy. However, the regulators and associated industries often came into conflict with each other due to their different organizational *raison d'être*s and “advocacy coalitions” (Sabatier, 1988; Sabatier & Weible, 2007). For example, as regards the transitions to DTV, the KBC supported the European-style standard, DVB-T, which involved the MIC buttressing the American standard, ATSC<sup>152</sup>. After

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<sup>151</sup> The KBC basically focused on (a) restrictions of ownership of broadcasters, (b) strict regulations regarding licensing, authorization, and registration of terrestrial, cable, and satellite broadcasters, and (c) the duty to ensure plurality, diversity, and impartiality. On the contrary, the MIC’s main responsibility was to promote the IT industry, including telecommunications, by developing a favorable business environment for domestic business players.

<sup>152</sup> Digital Video Broadcasting Terrestrial (DVB-T) is the DVB European-based consortium standard for the broadcast transmission of digital terrestrial television. ATSC standards are a set of standards developed by the Advanced Television Systems Committee for digital television transmission.

serious debates regarding the two competing standards had gone on for almost 4 years (2003-2006), ATSC was selected as the national standard for DTV service.<sup>153</sup>

Internet Protocol Television<sup>154</sup> (IPTV) was an important issue that showed the need to reform the fragmented and conflicting regulatory framework. Enhanced bandwidth and video compression technology allowed telecommunications operators to provide broadcasting service over their IP networks. The conflict between two different advocacy coalitions went on for 5 years before the introduction of IPTV in 2008 (Park & Park, 2009). Internet service providers, including KT and Hanaro Telecom, had finished the technological and business preparations for the IPTV service by early 2005, but the providers had to wait for three more years in order to obtain the license for the converged broadcasting service. Newspaper articles about IPTV in Korea reflect the ferocity of the debate and how much public attention this issue attracted. From 2004 to 2008, major Korean newspapers carried stories about “IPTV” about five hundred times, while major US and French newspapers published articles on this topic only four times (Park, 2009b). Given these circumstances, the liberal government established a “Committee for the Convergence of Broadcasting and Telecommunications” under the control of the prime minister in July 2006. The committee proposed a single independent regulatory organization where the KBC and the MIC would be consolidated. The original plan was for the role and discretion of the new regulator, KCC, to be more powerful than the institutions of other countries. The liberal government initially hoped to establish a powerful regulator that covered regulations and industrial promotion policy in telecommunications, broadcasting, and the IT industry (Kim, 2006a). Political matters compelled the liberal government to postpone the establishment of an integrated regulator.<sup>155</sup> The Lee Myung-Bak government implemented the establishment of this regulator and reshuffled the government structure in February 2008.

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<sup>153</sup> The KBC represented broadcaster interests during the debate. Broadcasters such as Munhwa Broadcasting Corporation (MBC) strongly opposed the ATSC on the grounds that “the ATSC system would require extra production costs and that an alternative system for mobile DTV using terrestrial DMB or satellite DMB might force them to compete with mobile operators for that audience” (Shin & Song, 2012, p. 1455).

<sup>154</sup> In Korea, IPTV usually refers to services delivered over privately managed IP networks by means of multicasting technology, specifically those services provided by telecom operators. In fact, there are many different versions of IPTV in terms of service, technology, and delivery medium (Kim, 2009b).

<sup>155</sup> Broadcasting industries, media workers’ labor unions, civic groups, and some National Assembly members continued to exhibit a negative attitude towards the introduction of IPTV and the establishment of an integrated regulatory agency. Their biggest concern was that “telecommunications would dominate the broadcasting sector.” In Korea, the broadcasting industry has the greatest amount of political power, while it has less economic power

The launching of a commission-type single regulatory agency, the KCC, brought a market-oriented shift to the policy regime. First, integration into single-regulator system could make conditions more favorable for businesses by reducing the number of regulators, their areas of overlap and the potential for uncertainty and inconsistency (OECD, 2004). OECD (2008) assessed that “the creation of the KCC is a major step towards an independent body that deals with regulatory issues.” (p. 109). In following the logic of neoliberalism, an independent regulatory agency is essential for limiting the room available for policy discretion, which can distort the rationality of the market system (Chang, 2001, p. 11). Second, business logic, which prevails in telecommunications, has been applied to the Korean broadcasting sector. According to Harvey (2006), after Ofcom, the U.K.’s single regulatory body, was established in 2003, broadcasting policy came under the influence of the “neoliberal ethos” that emphasizes markets and competition in the telecommunications policy regime. In 2009, the conservative government eased media ownership regulations in order to allow big corporations, foreigners, and newspaper conglomerates to acquire stakes in almost every aspect of broadcasting, including terrestrial broadcasting (See Table 8.).

Most important of all, the control tower for strong IT industry promotion was deconstructed as a byproduct of the launch of the KCC. The new framework, unlike the initial plan, integrated authority in information and telecommunications policy-making which had previously been separately assigned to four different agencies: (a) regulation in telecommunications and broadcasting to the KCC, (b) industry-promotion to the Ministry of Knowledge Economy (MKE), (c) regulation and promotion in content industry to the Ministry of Culture, Sports and Tourism (MCST), and (d) overall control of government-informatization projects to the Ministry of Public Administration and Security (MPAS). The roles of related government agencies became more decentralized, which resulted in weakening state intervention in the information and communications industry. For example, the MKE was responsible of almost every type of industrial policy, including policies for energy, steel manufacturing, shipbuilding, chemicals, and automobiles. The strong government leadership, which the MIC showed in various developmental projects in the IT industry, became less possible because the IT industry was one of the many industries that the MKE wanted to focus attention on. Furthermore,

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than the telecommunications industry. Given these circumstances, communications convergence exerted major political pressure on the policy-making processes at that time (Oh & Larson, 2011).



the commission-type governance of KCC also weakened government intervention in the market, while allowing the private sector to exercise more discretion.

#### 4.2. Wireless telecommunications policies under the conservative government

As noted above, the political economy that surrounded the Korean wireless telecommunications during the Lee Myung-Bak government (2008-2012) brought about reduced government intervention and more corporate autonomy, meaning neoliberal policy changes. This section examines how the neoliberal orientation of the Korean political economy shaped major wireless telecommunications policies and examines power relations in the policy-making process by analyzing major wireless telecommunications policies. This section scrutinizes three cases of Korean wireless telecommunications policies during the period of conservative government rule: the approval of mergers and acquisitions between the wireless and the fixed industry, the introduction of spectrum auction, and competition policies.

##### 4.2.1. Approval of mergers and acquisitions: reconfiguration of the market structure

During the period of conservative government rule, deregulation was driven by free market ideology. The decreasing power of regulators accelerated the consolidation of telecom market and helped Korean conglomerates intensify the oligopolistic market structure of telecommunications (See Table 9). One major regulatory objective during the MIC era was to prevent dominant common carriers from abusing their market power, as did other countries' telecommunications regulators. The government adopted a powerful *ex-ante* prescriptive measure in order to control the service rates of any dominant carrier that had more than 50% market share. The regulation was the "approval of service terms and conditions."<sup>156</sup> In addition to price regulation, Korea maintained strong regulations on the consolidation of common carriers in order to promote market competition. The Telecommunications Business Act was revised, and mergers of common carriers became subject to approval by the telecommunications regulator,

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<sup>156</sup> The conservative government attempted to abolish the regulation of service terms and conditions - a major tool for price regulation – throughout its regime. In July 2008, the head of KCC, Choi Si-Joong, argued that price regulation had "decreased market competition and increased the burden placed on consumers" (Kim, 2012). However, when confronted with resistance from latecomers, including KTF and LGT, the KCC was unable to remove the price regulations. Interestingly, the latecomers were concerned that the bandwagon effect would take effect if the dominant market player, SKT, had the freedom to set its service prices on the low side.

the KCC, in consultation with the authority on competition, the Korea Fair Trade Commission<sup>157</sup> (KISDI, 2010b).

The MIC maintained a negative attitude towards market consolidation, particularly between the fixed and the mobile sectors. This happened because the unique market structure found in Korea meant that KT and SKT had dominated the fixed-line and the wireless service markets, respectively. Despite the introduction of competition to the fixed-line service market, KT's market share did not fall below 90%. SKT maintained its market share at over 50%, despite MIC's implementation of various asymmetrical regulations, including discriminatory interconnection rates and number portability. Given these circumstances, the MIC maintained the principle of strict segmentation of the wireless and the fixed markets. This segmentation was intended to secure "fair competition" by preventing the spread of market dominance between the two markets. In addition, the MIC was concerned that the emergence of private monopolies would dampen market competition and undermine the power of government policy implementation. The exemplary case was the PCS licensing process, which highlighted the regulator's "segmentation" principle. When the MIC awarded a PCS license to KT in 1996, the MIC forced KT to establish a separate entity, KTF, in order to run its wireless business, contrary to the company's expectations.<sup>158</sup>

Unlike the previous regulatory agency, the KCC readily approved a series of mergers and acquisitions between fixed-line and wireless carriers. In February 2008<sup>159</sup>, SKT obtained government approval to become the major shareholder of Hanaro Telecom by means of purchasing 38.89% of its stake from a consortium of two foreign investors, American International Group and Newbridge Capital. The goal of SKT was to absorb the second largest broadband Internet subscriber base (369 million, 25.2%), landline subscriber base (200 million, 8.6%), and acquire the enhanced capability to provide IPTV service. Hanaro Telecom, the

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<sup>157</sup> As is the case with other countries, merger and acquisition (M&A) activities in telecommunications sector have been governed by sector-specific regulations as well as by general competition law (ITU, 2002).

<sup>158</sup> In fact, atmosphere inside KT at that time was that SK, the "evil" *chaebol*, had robbed them of their future growth engine, Korean Mobile Telecom (KMT), by means of "corrupted" privatization. KT hoped to reenter the wireless telecommunications business by running the business unit within the company, and not by establishing a separate subsidiary.

<sup>159</sup> Strictly speaking, the MIC approved SKT's acquisition of Hanaro Telecom on February 20, 2008. KCC was established on February 29, 2008. However, in Korean politics, immediately after the presidential election, the new government often becomes involved in politically significant decisions. Thus, we can regard the approval as being a decision that was made under the KCC.

second largest broadband/landline service provider in Korea, had offered video-on-demand TV since 2006 and accumulated related technology and know-how for the IPTV business. Rival companies such as KT and LGT expressed their concerns that SKT's mobile market dominance would spread into broadband and fixed line services. They argued that the government should impose strong conditions<sup>160</sup> - for instance, shared use of the 800MHz spectrum<sup>161</sup> - in approving the acquisition (Kim, 2008c). Despite negative opinions expressed by KFTC<sup>162</sup>, the regulator approved the acquisition, and included conditions such as non-discrimination in the wholesale market, the bundling of services, and the wireless Internet market (KCC, 2008b). Neutral use of 800MHz was not included in the imposed conditions. At that time, the regulator did not want to reject the acquisition, believing that it would be worse to allow foreign investors to obtain the rights of management in important common carriers again (Park, 2007). SKT persuaded the regulator to approve its acquisition of Hanaro, and jumped on increasing criticism of speculative foreign investors and emphasized that the new business model helped it "enter the global market" (Kim, 2007b)

SKT's acquisition of Hanaro Telecom triggered a rush of mergers among rival groups. Technological changes such as fixed-mobile-broadcasting convergence and emerging importance of triple play service (TPS) in market reflected that KT and LGT had prepared consolidation strategies but were waiting for an appropriate time to implement their strategies. KT first propelled mergers with its mobile subsidiary, KTF, in 2009. Due to the increased competition and threat from disruptive services such as VoIP, the company's overall revenue growth was stagnant and operating income decreased to less than SKT's operating income in 2008.<sup>163</sup> KT merged with its growing mobile subsidiary because it hoped to overcome its sluggish revenue growth problem and assume leadership in the TPS market. However, the merger was criticized

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<sup>160</sup> In Korea, the regulator can impose certain conditions when approving mergers and acquisitions in order to guarantee market competition. For instance, the merger between SKT and Shinsegi Telecom was approved in April 2000 by the KFTC, and was subject to the condition that the total market share of the merged entity should be reduced to less than 50 % by June 2001 (ITU, 2002, p. 33).

<sup>161</sup> The "golden frequency", 800 MHz, which had been exclusively used by SKT, was evaluated as being more efficient than 1.8 GHz or 2.1 GHz in investment and service quality. KTF and LGT, when using the latter, had to build 2-3 times more base stations than SKT in order to pursue equal service quality (Kang, 2008).

<sup>162</sup> The KFTC announced that "the acquisition would restrict market competition" and recommended to the MIC that exclusive use of 800 MHz should be broken by spectrum reallocation. The MIC did not accept KFTC's opinion, however (Kim & Kim, 2008).

<sup>163</sup> In 2008, the annual revenues and operating incomes of KT were 11.78 trillion won and 1.11 trillion won, while those of SKT were 11.67 trillion won and 2.06 trillion won (See <http://dart.fss.or.kr>).

by rivals and civic groups as constituting “a set back toward monopoly” because the new entity born from the merger would be a telecom giant with 90% of the fixed-line market, 45% of the broadband market and 30% of the wireless market. SKT opposed the merger itself. LGT argued that it should be approved under conditions that secured fair competition such as the separation of the last one mile subscriber network. Despite this controversy, the KCC approved the merger in March 2009. According to the KCC, the rationale for approval was that the merger was anticipated to lead to fixed-mobile-broadcasting convergence and contribute to the growth of the IT industry by “laying the foundation for growing as a global player”<sup>164</sup> (Shin, 2009). Considering the resistance of the other players, the KCC imposed such perfunctory conditions<sup>165</sup> that KT had to secure more access to other carriers and Internet companies, and speed up VoIP number portability requests (KCC, 2009a).

The merger between LG groups’ three telecommunication operators, LG Telecom (mobile), LG Dacom (fixed-line), and LG Powercomm (ISP), was approved by the KCC in December 2009. The integrated entity, LGU+ was launched in July 2010. All three units had the smallest market shares in fixed, wireless, and broadband services. LG’s merger case received less attention from the industry and the public than did rivals’ acquisitions and mergers. Competitors such as KT and SKT raised concerns about on the merger with respect to competition. Vertical integration with LG Electronics, a telecommunications equipment manufacturer, could limit competition by providing high-end handsets exclusively to LGU+. Korea Electric Power Corporation (KEPCO), the largest electrical utility in Korea, would own 7.5% share of the new entity, and this special relationship would undermine fair competition in the smart grid industry. More important is the question of whether or not the benefits that LG derived from asymmetrical regulation would continue after the merger. Despite these concerns, the KCC approved the merger, imposing the “usual” conditions that LGU+ must increase its investments in building broadband infrastructure in rural areas and must not discriminate against other players in the wireless Internet market (Yoon, 2009). However, the KCC announced that it would gradually change “the effective competition policy,” which had benefited LG, the

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<sup>164</sup> According to the KCC, KT was the 6<sup>th</sup> largest telecommunications service provider in Asia and the 18th largest telecommunications conglomerate worldwide with annual revenues of \$22 billion.

<sup>165</sup> KT itself evaluated imposed conditions as having had “a minimal impact on result” and rival companies said it was as if nothing had been imposed (TelecomAsia, 2009).

latecomer, and established a new competition policy that would reflect the reconfiguration of the market structure (KCC, 2009b).

Although three cases had different background details, they had some common points. First of all, as technologies such as fixed-mobile-broadcasting convergence developed, and the consequent business model (e.g. TPS) emerged, the need to consolidate separate business units increased. The convergence of digital technologies, as well as globalization and deregulation, was one reason behind the wave of mergers and acquisitions between telecommunications firms (Warf, 2003). The retreat of government power in the telecommunications market, which was driven by “business friendly” deregulation and the dismantling of MIC, are crucial factors to smoothen approval of market consolidation. This researcher’s experience was that the KT-KFT merger had already been planned and prepared as one of several feasible growth strategies, given that foreign investors pushed KT management to develop measures to escape stagnant growth in 2006. However, it was difficult for KT to create an atmosphere that was favorable to mergers, which would make policymakers think in terms of “back to monopoly” in the policy landscape in effect during the liberal government. In other words, the conservative government’s favorable disposition toward big businesses contributed to the mergers and acquisitions in Korean telecommunications during this period. As noted above, the conservative government thought that Korean firms were “too small to compete in global market.”

A series of mergers and acquisitions reconfigured the market structure of Korean telecommunications. The Korean telecommunications market was transformed into a completely oligopolistic market primarily consisting of three telecom giants: KT (market share, 47.1%), SKT (33.7%), and LGU+ (19.2%). This market reconfiguration was the culmination of telecom liberalization, and was driven by privatization, licensing, and deregulation. Except for KT, the so-called “privatized public enterprise”, SKT and LGU+, which had become core affiliates of the *chaebol*, SK and LG, are good examples that reflect the extent to which Korean telecommunications industry had been liberalized. SK *chaebol* first entered mobile industry through the privatization of KMT<sup>166</sup> in 1994, and became expand its business to other telecom business domains by purchasing Hanaro Telecom in 2008. In a similar manner, LG *cheabol* first stepped into the mobile industry by obtaining a PCS license in 1996, and expanding its business

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<sup>166</sup> Korea Mobile Telecommunication was established as a subsidiary of KT for mobile business in 1984.

by purchasing the public enterprises, Dacom<sup>167</sup> in 2000 and Powercomm<sup>168</sup> in 2002, and eventually succeeded in building a sizable telecom company through the merger in 2009.

Telecommunications had been increasingly liberalized in accordance with neoliberal ideas since the 1980s. Neoliberal ideas were the basis for the dismantling of “public monopolies” in the Korean telecommunications industry through the introduction of competition. Neoliberals believed that reducing government intervention creates viable markets and increases prosperity by increased competition. However, market players often prefer to be monopolistic rather than compete on a fair basis. That is why regulators exist: to ensure the continued existence of healthy markets and a good economy. During the period of conservative government rule, deregulation was driven by free market ideology. The decreasing power of regulators accelerated the consolidation of the telecom market and helped *chaebol* to shape an oligopolistic market structure in telecommunications.

#### 4.2.2. *Spectrum allocation: Shift from administrative control to spectrum auction*

The shift from administrative control to spectrum auctions was an exemplary policy case that reflected the conservative government’s neoliberal policy orientation in the wireless telecommunications industry. A spectrum auction is a method of distribution in which the highest bidder acquires exclusive access to specific bands of the electromagnetic spectrum. Coase (1959) suggested a theoretical rationale for the “property rights approach.” His idea that the pricing system would be more efficient than government “command and control” has been applied to actual spectrum allocations for commercial licenses<sup>169</sup> in many developed countries, including the US. It seeks to reduce government intervention and emphasizes the efficiencies to be derived from market transactions, a spectrum auction can be understood as an intrinsically

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<sup>167</sup> Korea Data Communication was established as a subsidiary of KT for value-added services in 1982.

<sup>168</sup> Powercomm was originally a business department of KEPCO that ran communications services such as power line communications (PLC) and broadband Internet services. The MIC argued that KEPCO should concentrate on the electricity business exclusively. KEPCO separated the departments and established Powercomm in 2000.

<sup>169</sup> In many countries, including the US, different schemes of managing the spectrum coexist: the command and control approach, the property rights approach, and the common approach (ITU, 2012a, p. 3). For instance, spectrums for use by government agencies such as the military, public safety, and transport operators are still allocated by command and control. Wi-Fi and low-power devices such as garage openers can use the unlicensed or open spectrum. The case here is that the shift from administrative control to auction is confined to spectrum allocation for commercial use.

market-oriented policy that is closely connected to the deregulation or privatization of public air waves<sup>170</sup>

Unlike other countries, Korea was relatively late to establish a legal basis for spectrum auctions. In fact, there had been active discussions on adopting spectrum auctions for licensing new wireless carriers for a number of years. For instance, the MIC inserted a new provision into the revised Radio Waves Act in the National Assembly, and sought to introduce spectrum auctions for IMT-2000 licenses in 1999. A nationwide controversy regarding the scandal revolved around PCS licenses<sup>171</sup> in 1996 led to the liberal government's attempt to introduce spectrum auctions, instead of administrative allocation, in order to enhance policy transparency. However, the revision was rejected in the National Assembly on the grounds that the "pricing system has the risk of reducing industry's competitiveness due to high entry costs" (Lee, 1999). At that time, many politicians in the National Assembly thought that it would be premature to introduce the US style spectrum auction and that it would be necessary to maintain government control over spectrum allocations. Under the liberal government's policies, a similar discussion occurred when the new wireless licensing process for products and services such as WiBro opened up. When the government encountered strong opposition from industry players, workers, and civic groups, it delayed the introduction of spectrum auctions. Industry players and workers in telecommunications and broadcasting were concerned that, if the pricing system were to be introduced, companies with large financial resources such as foreign firms and *chaebol* would jump into telecommunications. Civic groups were concerned that the high entry costs required of service providers would be passed along to consumers in the form of expensive service charges (Son, 2005).

Negotiations with the US for the KORUS FTA revived the discussion concerning spectrum auctions. The US initially argued that Korea should introduce spectrum auctions and follow the US model during negotiations for the telecom sector. The US regarded administrative spectrum allocation, as packaged with specific technical requirements, as a significant potential

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<sup>170</sup> In fact, economic liberalists may be dissatisfied with the spectrum auctions that have been conducted worldwide. The property rights approach originally included the freedom to transfer licenses, determine how to use the spectrum, and the ability to lease or resell all or part of the spectrum. However, many licenses were auctioned to firms without granting them these flexible user rights.

<sup>171</sup> The minister of MIC and affiliated politicians faced the suspicion that they had changed the judging system for selecting PCS licenses in order to benefit specific companies (Lee, 2013).

trade barrier. The US eased its initial stance on spectrum allocation<sup>172</sup> in the 5th round of FTA negotiation (Roh, 2006), and the pressure caused the MIC to propel forward the previously postponed reform of spectrum allocation.<sup>173</sup> The MIC listed the change of spectrum allocation policy in its “Telecommunications Deregulation Roadmap” in 2007 and returned to working out the detailed reform plan. However, the MIC once again faced opposition from broadcasting companies, media workers, and civic groups. The broadcasting advocacy coalition in particular was concerned that 108MHz of spectrum in the 700MHz band, which would be empty after the digital TV transition, would be allocated to *chaebol* and foreign firms for commercial wireless service, and thought that the introduction of spectrum auction was the first step in this reallocation.<sup>174</sup> For this reason, the MIC did not actively push the deregulation of spectrum allocation management.<sup>175</sup>

The plans for a spectrum auction that had long been postponed in the previous government were implemented under the conservative government. In accordance with the government’s “business-friendly” orientation, the KCC began to push for the deregulation of telecommunications, including broadcasting, “in order to enhance media industry’s global competitiveness and promote self-regulated competition in the telecommunications industry” (KCC, 2010a). Although the Korea Telecommunications Operators Association (KOTA) raised concerns, there was no serious opposition to the introduction of the spectrum auction itself.<sup>176</sup> The government tabled the revision of the Radio Waves Act in January 2009. The revision stipulates the KCC *may* allocate spectrum by price competition when the economic value of a

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<sup>172</sup> The US and Korea reached the compromise that Article 14.17 would stipulate “auctions” as well as “administrative incentive pricing.”

<sup>173</sup> After several rounds of FTA negotiations concluded, the minister of MIC, Roh Jun-Hyung, visited the US and discussed spectrum auctions with FCC chairman, Kevin Martin in July 2007 (KCC, 2007a)

<sup>174</sup> National Union of Media Workers (NUMW) strongly criticized the MIC’s attempt to introduce spectrum auctions as constituting evidence that the government surrendered to US demand during FTA negotiations. The People’s Coalition for Media Reform (PCMR) opposed the introduction of spectrum auctions, arguing that it would undermine the public interest in Korean broadcasting by allowing foreign big businesses to enter the industry (Moon, 2007).

<sup>175</sup> For instance, *Yonhapnews* reported that the government attempted to establish the legal basis for spectrum auctions by revising the Radio Waves Act on August 20, 2007. Immediately after the media release, the MIC explained publicly that the news was untrue and that the MIC had no plan for spectrum auctions (KCC, 2007b)

<sup>176</sup> Interviews with managers in KT and SKT indicate that incumbent players did not welcome the introduction of spectrum auctions. They thought that the introduction of spectrum auctions was unavoidable because it was a “global trend” and the government had strongly propelled it “to reduce administration costs in spectrum allocation”



certain band of the spectrum is high and competitive demands for it exist. Without making auctions into the mandatory method, the revised act gives the KCC the discretion to choose the allocation method depending on market circumstances. Interestingly, unlike the 1999 rejection, the National Assembly passed the revised bill regarding spectrum auctions in June 2010, because the conservative party, the Grand National Party, held a majority of seats.

After establishing a legal basis for spectrum auctions, the KCC held Korea's first spectrum auction for wireless broadband service in August 2011. Wireless carriers needed more spectrum bandwidth due to the rapid adoption of smartphones and increasing wireless data traffic. The KCC decided to sell the rights to use three separate bands: 10MHz in the 800MHz band, 20MHz in the 1.8GHz band, and 20MHz in the 2.1GHz band. The auction for the 1.8GHz band was fiercely competitive, and the bidding went on for over 83 rounds between SKT and KT. KT dropped out of the race for the 1.8GHz band, and SKT won the competition and obtained the right to use the spectrum for ten years. The price was relatively high, and amounted to 995 billion won (\$933 million). Two dominant wireless carriers were barred from competition for the 2.1GHz band, which was assigned to LGT at the initial reserve price, 445.5 billion won (\$412 million). The 1.8GHz band was regarded as more valuable<sup>177</sup> than the 800MHz band because it was already in widespread use for 4G Long-Term Evolution (LTE). Furthermore, SKT, which did not possess the spectrum in the 1.8GHz band, concerned that KT would have a strong advantage in 4G LTE by adding the auctioned part of the spectrum to the part of the spectrum that was already in use in the same band (See Table 10).

The interesting thing is that the KCC emphasized deregulation and market autonomy when introducing the spectrum auction, but did not completely abandon government intervention in spectrum allocation. As regards the auctions, the KCC prohibited SKT and KT from participating in the bidding for 2.1 GHz. According to a KCC official, Na Sang Eung, who took control of spectrum allocation for commercial uses, pointed out in his interview for this study that the KCC wanted to create the "managed spectrum auctions system" by mixing auctions with administrative control in order to prevent the development of potential unwanted side effects of spectrum auctions such as "spectrum monopoly." This intervention resulted in concerns

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<sup>177</sup> As of 2011, seven operational LTE networks were using the 1.8GHz band and many other operators worldwide planned to launch LTE service in the band (Cheong & Yeo, 2011, p.4). In the telecommunications industry, network externality and economy of scale is a crucial factor in successful business performance due to equipment supply costs, roaming, and standards.

regarding relatively high auction prices and unfair advantages on the part of LGU+. A ban on participation in the 2.1GHz band led SKT and KT to rush to compete in the 1.8GHz band. Simultaneous ascending bid without a ceiling made auction prices for the band relatively high.<sup>178</sup> In the absence of competitors, LGU+ got portions of the spectrum for 3G and 4G at the minimum price. Furthermore, the auction brought about an unexpected change in the wireless market. KT failed to purchase the spectrum in the 1.8GHz band for 4G LTE. 800MHz, which was allocated to KT instead of 1.8GHz, turned out to not be optimal for launching 4G, because it was expected to be unavailable until after 2013, and international standardization for the band did not yet exist. These circumstances pushed KT to terminate its 2G network early in order to use the 2.1GHz band, which had been used for 2G, for its 4G service. The early termination of 2G brought about market confusion and later brought about 2G users litigation against KT.

To sum up, the shift from administrative control to spectrum auctions was an exemplary policy case that reflects the conservative government's neoliberal policy orientation in wireless telecommunications. Of course, the shift does not mean the complete retreat of government intervention in markets because the government mixed administrative control with a pricing system in the 4G spectrum auctions conducted in 2011. Nonetheless, the introduction of spectrum auctions can be understood as a turning point for Korea's developmental policy package. The government usually imposed numerous restrictions on carriers in order to promote free markets, secure fair competition, and select a certain technical standard under the command and control allocation system. It would be difficult for the government to intervene in a major way in the market through spectrum allocation process under the auction system. One additional point is that only incumbent players were able to obtain parts of the wireless spectrum for new services as the results of the first spectrum auctions indicate. Spectrum auctions, at least in Korean, did not necessarily enhance market competition by facilitating the entry of new firms. It actually intensified the oligopolistic market structure by increasing the autonomy of incumbent market players with less government intervention.

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<sup>178</sup> At that time, part of the industry and civic groups were concerned that high auction prices might lead to the "winner's curse" and delay carrier investments in new services or that high entry costs might lead to service rate increases.

#### 4.2.3. Policy measures for boosting market competition and unsatisfactory results

The conservative government focused on market competition using certain policies: (a) the promotion of MVNO and (b) the licensing of a “fourth” wireless carrier. These policy measures were closely related to the government’s goal of boosting competition in the wireless market and lowering the price of mobile services. Interestingly, the conservative government chose these measures to disguise its “business-friendly” nature with “populist” policies in the wireless sector. In Korea, household expenditures on communications had increased rapidly since the late 1990s.<sup>179</sup> This happened because various services, including broadband Internet, 3G mobile, and other converged services had been introduced in the market, and also because multimedia services such as education/entertainment content had been integrated into telecom services (Choi & Park, 2008, p. 74-76). Lee Myung-Bak pointed to telecom service rates as a major culprit behind rising consumer prices, and pledged during his presidential campaign to reduce mobile service charges by 20%. Given these circumstances, the KCC pushed three incumbent mobile carriers to lower their service rates. The regulator’s efforts were partially successful in persuading carriers to introduce a per-second billing system, reduce basic membership fees, and scrap caller ID charges. However, other measures that could have resulted in the transformation of the existing oligopoly into a more competitive market structure were unsuccessful due to the market power of incumbent players.

First, the conservative government attempted to promote the growth of mobile virtual network operators (MVNO) in the Korean wireless market. MVNO is an operator that provides mobile communications services to users without its own radio spectrum and network infrastructure.<sup>180</sup> Theoretically, MVNO has been regarded as a policy option for boosting market

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<sup>179</sup> The average growth rate of household expenditures on communications from 1997 to 2006 was 13.3 per cent. Each Korean family spent 37,749 won for their communications services in 1997, and they paid 116,851 won for the services in 2006 (See <http://kostat.go.kr>). Korea had been ranked a top country among OECD countries in view of the ratio of household expenditures on communications to disposable income from 1997 to 2008: 3.2% in 1997, 5.6% in 2002, and 4.5% in 2008 (OECD, 2009; 2011).

<sup>180</sup> There is no universal definition of MVNO. It has a broad range of meaning ranging from a simple retailer to a service provider that runs a certain type of network infrastructure. According to Ergas, et al. (2005), it can have three classifications: full MVNO, intermediate MVNO, and thin MVNO. A full MVNO runs its own network core, including a mobile switching center (MSC). An Intermediate MVNO builds its own home location register (HLR), not a core network. A thin MVNO provides only additional applications and contents and is little different than pure resellers.

competition in the wireless industry and for lowering service rates.<sup>181</sup> In addition, industrial groups<sup>182</sup> have expressed intentions of establishing their own MVNO in order to enter a lucrative market. Given this background, the KCC attempted to develop a legal basis for introducing MVNO by revising the Telecommunications Business Act. However, the regulator's plans for MVNO encountered resistance from incumbent carriers, particularly SKT. SKT, a dominant wireless carrier in the market, thought that MVNO would facilitate additional market competition and cannibalize its own customer base. The company argued that wholesale prices and other conditions should be decided upon depending on self-regulation or contracts between MNO and MVNO, even if it became possible for the new competitors to enter the wireless service market.

Despite opposition from SKT, the National Assembly revised the Telecommunications Business Act in order to introduce MVNO in February 2010.<sup>183</sup> The revision specified that the KCC could designate SKT as a dominant player that had to provide its own network when MVNO requested a network lease. After one year of negotiations between MVNOs and SKT, the wholesale price was formalized in March 2011. The KCC focused on regulating SKT, while allowing KT and LGU+ to lease their networks to MVNO based on private contracts without government approval. 24 MVNOs, including KCT, Onse Telecom, and CJ HelloVision, have entered the wireless industry since 2010. In October 2012, the number of MVNO subscribers reached one million<sup>184</sup>. However, the market share of the million MVNO subscribers out of the total number of 53 million Korean subscribers was less than two percent.

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<sup>181</sup> According to Kalmus & Wiethaus (2010), MVNO is unlikely to reduce consumer prices without government intervention, e.g., access regulation.

<sup>182</sup> CATV service providers, small and medium landline carriers, the distribution industry, and the banking industry were eager to enter the wireless industry via MVNOs. For instance, the Korean Cable TV Association (KCT) and CJ group, which entered from the food industry to media industry, needed wireless service to compete with three major telecom carriers in the TPS market. Distribution companies such as Home Plus and banks such as the Korean Federation of Banks hoped to expand their businesses across the country using their local branch network. Small and medium landline carriers such as Onse Telecom and the Federation of Small and Medium Communications Companies (FSMCC) wanted to migrate their businesses away from the declining wired market and migrate into the lucrative wireless market.

<sup>183</sup> According to Shin & Chung (2012), lobbying by industrial groups such as Onse Telecom was effective in persuading the National Assembly (p. 57).

<sup>184</sup> As of October 2012, the total number of MVNO subscribers reached 1,012,000. 10 MVNOs that leased KT's network gathered 515,000 subscribers. 5 MVNOs that used SKT's network acquired 284,000 subscribers. MVNOs that rented the network from LGU+ attracted 213,000 subscribers (Chung, 2012). KT, the second largest mobile

The reason for relatively slow growth was SKT's delay in negotiations with MVNOs. Furthermore, real competition did not increase the wireless market due to the oligopolistic market structure, despite the reduced MVNO service prices. MVNOs found it difficult to secure a line-up of attractive handsets due to their small subscriber base. Unlike incumbent players, their weak financial capacity limited their ability to offer handset subsidies, particularly in the relatively expensive smartphone market. In addition, their small number of retail channels and the unproven quality of their customer service center were among the disadvantages of MVNOs. Furthermore, SKT and KT listed their subsidiaries as being MVNOs in 2011 and prepared to launch their MVNO to target the low-end service market.

In addition to the promotion of service-based competition along the lines of MVNO, the KCC also attempted to give a new wireless license to the nation's "fourth" mobile carrier to enhance market competition. The KCC initially hoped to accomplish multiple goals by granting a new WiBro-based license to a fourth carrier in order to: (a) bring facility-based competition into the oligopolistic mobile market, (b) lower wireless service prices, and (c) revive the home-grown technology, WiBro, which wound up as a 'white elephant' in the marketplace. Furthermore, the selection of a fourth wireless service provider was a core policy that had been promised during the presidential election campaign in 2008.

The project failed due to the KCC's *chaebol*-oriented policy logic and oligopolistic market structure. The KCC opened the licensing process four times since June 2010. The Korea Mobile Internet (KMI) consortium applied for a license to provide wireless access based on the WiBro network four times since the initial bids in June 2010. The other consortium, known as Internet Space Time (IST), submitted applications for a fourth mobile carrier license twice in 2011 and 2012 (See Table 11). Every application from KMI and IST from June 2010 to December 2012 was disqualified by the KCC. The KCC gave the applicants low scores for their financial stability and business feasibility (KCC, 2010b; 2011a; 2011b; 2013).

The KCC put a priority on applicants' financial and business capabilities and technological abilities.<sup>185</sup> The KCC's logic was that a fourth carrier needed to build a new

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carrier in Korea, was relatively active in making contracts with MVNOs because the company expected to undermine SKT's market dominance using MVNOs.

<sup>185</sup> Spectrum auctions had been introduced in 2010, but dual tracks for wireless licensing had not been integrated into one process. If a company wanted to start its own wireless communication service, it first had to pass

network and facility in order to provide wireless service. Thus, it needed huge capital expenditures in its early investment stage and needed to be capable of enduring huge deficits before it could reach the breakeven point. If a company selected to be a fourth carrier were to suffer large losses and need to retreat from its business, customers would be harmed. This is why the KCC wanted the large Korean conglomerates, *chaebol*, to participate in establishing a fourth wireless service provider.<sup>186</sup>

Korean conglomerates, including Hyundai, Samsung, and Dongbu<sup>187</sup>, disagreed with the regulator's policy orientation, and expressed their hope of joining a fourth wireless carrier project. Hyundai group decided to join the IST consortium by investing 0.2 trillion won (\$0.19 billion) through subsidiaries such as Hyundai U&I and Hyundai Securities in order to diversify its businesses (Moon, 2011). Samsung Electronics was expected to join the consortium in order to attempt to resuscitate the waning market for WiBro (Kim, 2011b). Dongbu joined the KMI consortium as a leading investor in order to expand its business domain into the wireless industry. However, these *chaebol* eventually gave up on their investments in the mobile business, due to the global economic slump, the severe competition in the Korean wireless industry, and the uncertain future of WiBro technology.

There was a possibility that a new wireless service provider could succeed in the already oligopolistic wireless market. As mentioned in the MVNO case, when there is a large subscriber base of incumbent players, their ability to supply attractive handsets, the financial ability to provide a handset subsidy, and brand power are significant barriers to entry for a new carrier that seeks to enter the market. Although a new carrier can obtain a license, it would find it difficult to succeed in the wireless market because the business would be based on WiBro. The corporate interests of SKT and KT led to the stagnant growth of the domestic WiBro market. Samsung, a major WiBro equipment manufacturer, actually abandoned its WiBro business because LTE had

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government's licensing process based on the Telecommunications Business Act, and then, it also had to pass the process of spectrum allocation - administrative control or auctions - based on the Radio Waves Act.

<sup>186</sup> The interview with a government officer with *Maeil Kyungje* reflects the KCC's stance regarding a fourth wireless carrier license. "Telecom is a large facility-based business that needs large initial investments. In addition, it takes a relatively long time to recoup early investments. Except for *chaebol*, no one has the financial capability to endure this situation. The reason why LGU+ survives severe competition was that LG *chaebol* backed up the company. Without the *chaebol*'s participation, the future of a fourth wireless carrier project would be dark" (Kim, 2013).

<sup>187</sup> Dongbu group is the 16th largest *chaebol*, and operates businesses mainly in steel, construction, finance, and IT (See <http://www.ftc.go.kr>).

defeated WiMax in 4G standard battles. Furthermore, three incumbents slightly reduced their service charges in response to government policy pressure. This situation led to a skeptical attitude regarding the possibility of a fourth wireless carrier license in the telecommunications policy landscape, where the consensus was “three players are enough for small Korea. Why do we need another wireless carrier?” (Lim, 2013)

To sum up, the conservative government’s attempt to boost service-based competition and facility-based competition was unsuccessful due to the oligopolistic market structure and business interests inside and outside of the wireless industry. Although MVNOs could enter the wireless market, it was not much of a success given that they took less than a 2% market share. This accomplishment came about due to the business strategy that existed among the incumbent business players in the wireless industry, not due to the government’s regulatory efforts. As regards a fourth wireless carrier, the government failed to grant a license and, even should a fourth carrier emerge, market competition makes this unlikely due to the existing oligopolistic market structure.

#### 4.3. Conclusion: the state as neoliberal and developmental facilitator

This chapter found that the state facilitated the neoliberal transformation of the national economy and the wireless telecommunication industry. As regards the nation’s economic system, the government took an active role in completing the Free Trade Agreement, propelling the privatization of the financial industry, and enhancing market freedom by means of tax reductions and deregulation. The neoliberal orientation of the government accelerated Korean economy’s integration into the global economy and led to the re-emergence of *chaebol*.<sup>188</sup>

In the wireless telecom sector, the conservative government dismantled the MIC, the control tower for implementing the Korean developmental model in the information and communications industries. The new ‘independent’ regulatory agency, the KCC, accepted and supported the industry’s agenda for consolidating traditional different sectors such as fixed, wireless, and broadcasting. The regulatory agency changed the mode of spectrum allocation management from administrative control, formerly a core policy tool for developing the wireless industry, to spectrum auctions. Furthermore, the KCC propelled various deregulatory measures,

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<sup>188</sup> Kalinowski (2009) pointed out that Korea entered “the second Chaebol Republic” with the return of conservative government and the re-emergence of large Korean industrial capital.

such as introducing MVNO and licensing a new wireless carrier, in accordance with the government's neoliberal policy orientation. The Korean state appears to have transformed itself into a "neoliberal state" during this period.

However, the state did not abandon its developmental intervention in industry. For instance, spectrum allocation was not completely based on a free-market auction system. The Korean government continued to maintain its 'discretionary' power over the licensing of new wireless providers. The KCC disqualified small- and medium- size corporate applications for a fourth carrier because it believed that only large corporations such as *chaebol* could effectively use the license. Streeter (1996) points that the US government intervened in the creation of commercial broadcasting based on "corporate liberalism." In Streeter's analysis, radio was seen as a big, sophisticated, and new technology, and only the large corporations would be able to make the technological investments and keep pace with the fast-evolving technological demands. Streeter's argument also applies to Korean government wireless telecom policy, which is undergirded by the belief that only large corporations can succeed in developing a sustainable industry. This idea originated out of the past experience with rapid economic growth emerging as a result of a state-big business developmental alliance.

Interestingly, this chapter also found that the government's neoliberal policies were often unwanted by industry. The conservative government sought to promote market competition by establishing institutions based on free market ideology through deregulatory measures, but the goal was not fully accomplished due to the interests of incumbent market players. In most cases, appropriate state regulation of provision, access, and pricing is unavoidable in naturally monopolistic and oligopolistic markets such as telecommunications. For this reason, the regulation of telecommunication involved seeking a way to secure fair competition in industry. However, in the Korean wireless industry, enhanced competition driven by telecom liberalization since the 1990s, finally resulted in an oligopolistic market structure due to the government's neoliberal policy. The government's neoliberal policies are now often unwelcome among the oligopoly. In other words, relations between the state and capital, as examined in this chapter, reflect one of the "shadowy areas within the general theory of [the] neoliberal state" (Harvey, 2007, p. 67).



*Recurrent policy regime and the neoliberal developmental state*

There is a high degree of similarity between the political economic environment and wireless telecommunications policy regimes under the Kim Young-Sam government and under the Lee Myung-Bak government (See Table 1). First, the two governments proactively participated in neoliberal globalization. During the Kim Young-Sam government's rule, Korea entered into the WTO and multilateral free trade agreements that shaped the global rule of trade based on neoliberal idea. In 1996, Korea joined the OECD, an organization of "rich" countries that strongly support the free market system. Under the Lee Myung-Bak government, Korea finished negotiating the KORUS FTA in 2010. The US government boasts that free trade agreements have proven to be "one of the best ways to open up foreign markets to US exporters" and are part of a legal framework that supports global free market through bilateral agreements' network.<sup>189</sup>

Second, the two conservative governments shared the common characteristic of emphasizing neoliberal globalization as their number one political agenda item. The Kim Young-Sam government declared "globalization" (*seggyehwa* in Korean) to be a leading principle in their economic policies. The main argument in support of *seggyehwa* was that it enhanced the international competitiveness of Korean society and economy by accepting global standard and norms. The Lee Myung-Bak government similarly proclaimed that "advancement" (*seonjinhwa* in Korean) must be an idea that guides the revitalization of the nation's economy. This is congruent with *seggyehwa*, a concept suggested ten years previously. *Seonjinhwa* highlighted the necessity of accepting neoliberal norms as a means of boosting the nation's international competitiveness. *Seonjinhwa* was often underscored as a rationale for the privatization of public sector organizations such as state-owned banks, airports and railroads.

Third, the neoliberal political agenda significantly impacted the wireless telecommunications policy regime. Governments reorganized the regulatory agencies depending on their political agendas. The Kim Young-Sam government established the MIC to support telecommunications liberalization in the late 1990s. The Lee Myung-Bak government dismantled the development-oriented MIC, which functioned as the control tower of the IT industry development during the liberal government's rule, and created the KCC as an integrated

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<sup>189</sup> See the website of International Trade Administration (<http://trade.gov/fta/>).

regulatory agency. The result was that Korean wireless telecommunications was rapidly liberalized under the Kim Young-Sam government, as noted in Chapter 1. The KMT, a public enterprise that exclusively provides wireless services, was privatized and sold to the SK *chaebol*. Four new licensees entered the wireless service market, and government-led CDMA R&D projects came under the influence of *chaebol* such as Samsung, LG, and Hyundai. The Lee Myung-Bak government propelled neoliberal policies in the wireless telecommunications. The market structure of the telecommunications industry became oligopolistic, spectrum auctions were introduced, and competition policies such as the introduction of MVNO and the awarding of licenses for a new wireless carrier were attempted.

Chapter 2, Chapter 3 and Chapter 4 of this dissertation illuminated that the wireless telecommunications policy regime continuously changed depending on the political and economic environment (See Table 1). In reaction to major structural changes such as neoliberal globalization, domestic political changes, and the changing power of domestic capital, the government created different policy regimes in wireless telecommunications. The interactions between the state, transnational forces and businesses also produced different policy networks and results at each stage. This dissertation elaborates that the role of state and the interactions between actors in the Korean wireless telecommunications have continuously changed, unlike the proponents of both neoliberal convergence and the return of the state thesis. Historical accounts of the Korean wireless telecommunications policy reflect that the role of state has not decreased. It has instead been reconfigured, depending on the details of the political economic environments. A hybrid concept such as that of the neoliberal-developmental state is necessary for conducting analyses that extend beyond simple dichotomization of the evolution of the East Asian political economy.

### Chapter 5. The change in wireless standards policy and networked users as policy actors

“Our country closed its door about one hundred years ago, and the result was that our land went under Japanese colonial rule. But, we still don’t throw away isolationism. We should realize how rapidly global circumstances change and how important international criteria are.”<sup>190</sup> At first glance, this appears to be part of touching speech delivered by a Korean politician who is worried about the nation’s future. However, this is not a political speech, but one of the hundreds of online comments that individual users posted on online petition that sought to remove a *de jure* national standard for the mobile Internet platform, the Wireless Internet Platform Interoperability (WIPI). Users who gathered online asked for the removal of the WIPI, which was considered to be a technical barrier to iPhone imports around 2008. The controversy was one reason why the government eliminated the WIPI mandate and allowed domestic wireless carriers to import iPhones.

This unprecedented situation stimulated this researcher to examine the role of individual users in the Korean wireless telecommunications policy landscape where the state’s goal and business interests have long been dominant. In political science and public policy studies, the role of institutional policy actors<sup>191</sup> such as legislatures, government agencies, and the courts has been a core research subject (Cahn, 2012). Business as a political actor has been scrutinized closely both in political science and management studies (Kautto, 2009). The role of consumer organizations as policy actor has also been researched in various policy cases. However, the role of individual citizens in the policy process has garnered less scholarly attention until they were mobilized into a large-scale social movement and a powerful interest group (Birkland, 2011, p. 133).

More particularly, individual users have seldom been regarded as potential policy actors in telecommunications policy research. Unlike audiences in the broadcasting sector, users in telecommunications have usually been framed as being individual consumers in relationship to economic goals, not as a collective citizenry from the social and cultural perspective (Livingstone & Lunt, 2012). Treating telecommunications users as mere consumers has been more prevalent in Korea than in other countries due to Korea’s long-term emphasis on the

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<sup>190</sup> See <http://bbs3.agora.media.daum.net/gaia/do/petition/read?bbsId=P001&articleId=50170>

<sup>191</sup> In this chapter, policy actors are defined as, both formal and informal, individuals and groups that seek to influence the creation and implementation of public policy.

information-based economic developmental model. The telecommunications industry has been a core domain for national economic growth. As a consequence, individual users of telecommunications network and services have often been framed as being passive consumers or markets in Korea. As previous chapters illuminated, Korean wireless telecommunication policies have been shaped to support corporate interests and realize governmental goals. “Neoliberal-developmental” practices turned the Korean wireless telecommunications policy regime and industry into a closed system. However, users have recently emerged as a possible policy actor in the Korean wireless telecommunications landscape.

Given this context, this chapter will examine the role of users who became involved in the controversy regarding the removal of WIPI and iPhone imports around 2008 and 2009 in the Korean wireless telecom policy landscape. This chapter relies on historical methods, interviews with users and the materials they posted in online forums. This chapter is organized into two main sections. The first part of this chapter investigates the formation of WIPI in the context of the neoliberal-developmental state. This part focuses on the role of, and interactions between, the state, transnational forces, and domestic business players in developing homegrown technology and standards. The second part of this chapter analyzes the role of networked users who sought to use the iPhone and organized themselves into online communities during the removal of WIPI. This part explains how networked users emerged as a policy actor in the wireless telecom policy landscape.

The main purpose of this chapter is to understand the interactions among actors in the policy landscape involved in mobile Internet platform standard policy. This chapter does not argue that the role of users was a single crucial factor behind the policy change. Instead, the research intends to highlight the necessity of considering the role of users as one possible factor behind the policy change and understanding it within the context of online democracy. Thus, this chapter begins with an examination of the origin of WIPI and interactions between the state, transnational forces and business players.

### 5.1. The Formation of WIPI policy: The outcome of neoliberal-developmental practice

This section examines how the Korean ‘neoliberal-developmental state’ initiated the development of the WIPI standard and what were the interactions between the government, domestic business players, and foreign pressures in the formation of the standard. WIPI is a

middleware platform<sup>192</sup> that allows mobile phones to run applications. The government set WIPI as a mandatory standard, which meant that any mobile phone that did not have WIPI could not be sold and used in Korea. The WIPI mandate had a significant effect that protected the domestic wireless Internet industry and mobile handset-manufacturing industry. These industries could reduce the license fees they paid for foreign middleware platform. In addition, the WIPI mandate gave domestic software developers and manufacturers a grace period<sup>193</sup> to prepare for the impending entry of foreign players and the rise of the smartphone market. Unlike the situations found in other countries<sup>194</sup>, the development of WIPI was a successful national project for building its own standard for a wireless Internet platform and in bringing it into widespread use as a mobile Internet platform in Korea. As of September 2008, immediately before the government abolished the mandatory loading of WIPI, the market share of mobile phones that made use of the homegrown wireless Internet platform was about 86% (KCC, 2009c, p. 24).

#### 5.1.1. Official goals and underlying motivation for wireless platform standardization

According to the MIC, the official goal of promoting WIPI was to guarantee interoperability between the several platforms that were incompatible at that time, and create a virtuous circle of new growth in the wireless Internet industry (MIC, 2002, 17). In a manner similar to the wireless Internet market of other countries in the early 2000s, each wireless carrier in Korea – SKT, KTF, and LGT – had adopted different incompatible middleware platforms, which allowed mobile phones to run applications (See Table 13). In this situation, the MIC had expressed concerns regarding two issues brought about by carriers making use of incompatible platforms.

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<sup>192</sup> In this chapter, platform means a “computing platform” that includes hardware architecture and a software framework, where the combination allows applications to run. In the computing architecture, the lower layers serve as platforms that support the upper layers. For instance, hardware such as CPU is a platform of operating system (OS). OS is a platform of middleware such as WIPI and BREW, and middleware is also a platform of applications (See Bass et al., 2003).

<sup>193</sup> For example, due to the mandate, Qualcomm spent almost one and one-half years developing the capability to release chips embedded with WIPI-on-Brew in 2006 (Kim, 2007a). Other foreign firms such as Apple, Research In Motion, and Nokia sought to release smartphones and their associated online applications store, but were also delayed due to the WIPI mandate.

<sup>194</sup> China’s similar attempt to set a *de jure* national standard for mobile security, Wireless LAN Authentication and Privacy Infrastructure (WAPI), instead of a *de facto* standard, Wi-Fi, was postponed. The Chinese government intended to establish WAPI as a barrier to trade in the high-tech sector, but its efforts eventually failed due to the domestic and international political economic situation (See Cromer, 2005; Kennedy, 2006; Lee & Oh, 2008).

One of the most frequently-mentioned problems encountered when running incompatible platforms was the overlapping investment of content providers. Content providers had to develop different version of applications in order to fit their products into each wireless Internet platform. The MIC also pointed out that the adoption of discordant mobile platforms had led to inconveniences experienced by users, which impeded the increase in consumption of wireless content and the expansion of the entire wireless industry. In other words, the standardization of platforms was expected to lead to positive consumption externalities<sup>195</sup> in the wireless Internet market for the benefit of domestic carriers, platform developers, content providers and device manufacturers.

In addition to the official goals, MIC's underlying motivation for promoting WIPI was the protectionist viewpoint and developmental ambitions. Korea's adoption of CDMA<sup>196</sup> as a single standard for wireless service led to Qualcomm earning \$2.63 billion in CDMA technology royalties from Korea between 1995 and 2005 (MIC, 2005). However, government and businesses in Korea, primarily wireless handset manufacturers such as Samsung and LG, expressed growing dissatisfaction with the royalty structure.<sup>197</sup> In addition, Qualcomm introduced its own platform for wireless Internet service, Brew, through KTF in October 2001. Brew was closely compatible with Qualcomm's CDMA chips, and exhibited good performance characteristics, such as speed of operation and high stability for wireless Internet service. Had Brew been adopted as the *de facto* standard, Korean companies would have had to pay an additional \$3 per phone (Jeong, 2004). During 2002, Korean mobile phone manufacturers paid \$329 million in licensing fees to Qualcomm to use its technologies, including CDMA and Brew. This amounted to 7% of Korea's total exports of wireless handsets (Lee, 2008a). Given these circumstances, it is not surprising that a primary goal of WIPI development was to achieve "technological independence" by excluding Qualcomm's platform from the domestic market.

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<sup>195</sup> Leibenstein (1950) suggested the initial concept. "Network externality" is of fundamental importance for the economic analysis of the communications industry, as Rohlfs (1974) has shown. Economic historians such as David (1985) and economic theorists such as Katz and Shapiro (1985) began to explore the issues in the context of standardization.

<sup>196</sup> CDMA is based on an old technology known as "spread spectrum" developed in military communications in the 1950s (Scholtz, 1982). Qualcomm carried out the first trial of the commercial spread spectrum system in 1993. The first commercial service based on CDMA was launched in Hong Kong and Korea in 1995.

<sup>197</sup> Korean mobile handset makers, including Samsung and LG, must pay the CDMA royalties totaling 5.25% of factory prices for domestic sales and 5.75 % for overseas shipments (Shim, 2006). Moreover, there was no adjustment of royalties for a decade.

However, the MIC's ambitions while promoting the WIPI standard went beyond shutting Qualcomm out of the domestic wireless telecommunications market (Kim, 2011). There was no exclusive or dominating international standard for wireless Internet platforms at that time, although several standards were competing for market dominance. The MIC and domestic business players in the Korean market wanted to create an international pre-standard instead of simply waiting for an agreement or being forced to watch foreign high-tech firms such as Qualcomm and Sun Microsystems dominate the international standard-setting process. The MIC expected developers, device makers, and carriers to develop the capacity to create products by mandating the use of homegrown technology for wireless Internet platforms in order to foster a potential future international standard.

“Although we were the first in the world to launch CDMA, Qualcomm earned large amounts of royalties from us. As the saying goes, one man sows and another man reaps. (...) When it comes to the wireless Internet, Qualcomm has a related technology known as Brew. The company exhibited the strong intention of promoting another *technological colonization* (*Gisul Jongsokhwa* in Korean) in the wireless Internet. We thought we could not endure this unfairness any longer. Using a homegrown middleware technology, we wanted to make our own way in the wireless Internet industry on a global scale”

An interview with a government officer in KCC who had been involved in the policy-making process of WIPI confirmed that the primary motivation behind the promotion of WIPI was to develop “technological independence” from foreign firms while also making its own technology into an international standard. In the Korean telecom policy field, economic nationalism has often been tied to large-scale developments in technology. The interviewee's term, “technological colonization” reminds this researcher of the relationship between imperialism, nationalism and decolonization during the 20<sup>th</sup> century. The spiritual background of the developmental project appears to be a fervent desire for economic survival against ‘imperialistic’ penetration by foreign technology and capital during neoliberal globalization.

#### *5.1.2. State-business linkage during the first stage of WIPI project*

In order to accomplish these strategic goals, the MIC began the process of setting standards for the WIPI platform. An interesting point is that, unlike the previous national R&D and standardization project, the MIC delegated the authority for formulating and implementing policies related to the development of WIPI to a private organization. In May 2001, the Korean Wireless Internet Standardization Forum (KWISF) was founded. 830 companies and 90 technical

experts in the industry were members. The forum included most of the key stakeholders in the Korean wireless telecommunications industry including software developers, carriers and device manufacturers (ETRI, 2001).

However, it was a semi-governmental organization, given that public agencies affiliated with the MIC, such as ETRI, took a leading role in establishing and operating the KWISF. It was outwardly an organization led by the private sector. In practice, it was a government-led organization that led the development of WIPI. After the establishment of the KWISF, a specialized group within it - the Mobile Platform Special Subcommittee (MPSS) - set the technological specifications for WIPI. In April 2002, the preliminary version of WIPI was adopted as a formal standard for use with the wireless Internet through the formal standardization process of the MIC-affiliated standards body, the Telecommunications Technology Associations (TTA).<sup>198</sup> The TTA also conducted interoperability testing with the WIPI project group in order to ensure the smooth integration of WIPI with newly developed applications, hardware and business models.

The government led the development and upgrades of WIPI technology. In order to create WIPI, the MIC selected a consortium of domestic high-tech start-ups including Sinjisoft, Aromasoft, and EXEmobile in November 2001. The research and development behind the initial version of WIPI was implemented from December 2001 to November 2002. It is estimated that the MIC provided subsidies amounting to \$11-14 million to develop WIPI (AEA, 2003, p.2).

It was not easy for the MIC to coordinate different positions and get them to converge toward the new mobile platform. During the standardization process, wireless service providers exhibited a negative attitude toward the government-led standardization of mobile platform (Yoo, 2002). Since the early 2000s, wireless voice revenues continued to stagnate while mobile data revenue surged.<sup>199</sup> Each carrier attempted to lock-in its customers with differentiated platforms and associated content. Service providers were concerned that the unification of the wireless platform would weaken their strategy of service differentiation through mobile

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<sup>198</sup> TTA is a private foundation established in 1988 for the purpose of setting information and telecommunications standards. However, the government has assigned formal IT standardization projects to TTA since 2001. Korean government covers *de jure* standardization agencies such as International Telecommunications Union (ITU) and Asia-Pacific Telecommunity (APT), while TTA mainly covers *de facto* standardization organizations such as the Institute of Electrical and Electronic Engineers (IEEE) and the World Wide Web Consortium (W3C). (See TTA, 2007).

<sup>199</sup> From 2000 to 2004, the growth rate (CAGR) of wireless voice sales was 8.04%, while the CAGR of mobile data was 87.86%. (See Database of the Korean Association for ICT promotion. <http://www.kait.or.kr/>)



platforms. For this reason, after the technological specification was set in 2001 and the MIC pushed the formal standardization forward, SKT, the largest wireless carrier, announced its acceptance of the standard but avoided mentioning its schedule for the development and commercialization of WIPI. KTF, the second largest provider, expressed opposition to WIPI due to their concern that the difficulties involved in differentiating services would lead to market domination by SKT. Only LGT reacted positively to the government's plan. LG announced that it would develop a new wireless platform based on WIPI and begin commercial service within a year. In addition, despite their approval of the WIPI project, content providers – most of whom were small- and medium-size enterprises – raised concerns that wireless carriers would influence the standardization process because the CEOs of the three carriers had been appointed co-chairmen of KWISF.

Despite these complaints, the WIPI was developed and adopted as a national standard for mobile platforms in April 2002. Unlike the CDMA project a decade ago, the government encountered various forms of opposition from domestic players and had to coordinate the interests of stakeholders such as carriers, developers, and content providers. However, during the first stage of the WIPI project, most domestic stakeholders acknowledged the necessity of developing a national standard based on homegrown technology and exhibited “cooperative conflict” behavior that could be resolved by government coordination (Song, 2009, p. 171).

### *5.1.3. Pressure from the outside and limited solution in the second stage of WIPI*

During this stage, one influential input into the WIPI policy-making process came from outside Korea. After the KWISF set the technological specifications for WIPI and the TTA adopted WIPI as a standard for mobile Internet platforms in April 2002, the MIC showed that it intended to mandate the loading of WIPI onto mobile phone. The MIC decided to add the obligatory use of WIPI to the interconnection rule in May 2002.<sup>200</sup> The KWISF simultaneously suggested the adoption of WIPI as an international standard for asynchronous IMT-2000 to an international standardization agency, the 3<sup>rd</sup> Generation Partnership Project (3GPP). This was the first step in making WIPI into an international standard, according to the MIC's strategy.

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<sup>200</sup> The MIC wanted to insert a new stipulation, “wireless Internet platform loaded on a mobile phone shall meet a national standard specification,” in the revision of Notification of Ministry of Information and Communications on Standard for Interconnecting of Electronic Communications Facilities.

However, this announcement of the MIC in May 2002 sparked a series of protracted bilateral negotiations involving the KWISF, MIC, Qualcomm, the US Telecommunications Industry Associations (TIA), and US government agencies such as the United States Trade Representative (USTR).<sup>201</sup> Before the settlement of the issue in April 2004, twelve bilateral negotiations were held between Korea and US. The USTR advocated in favor of the interests of the US high-tech corporation Qualcomm, which had been a start-up but soon became one of a fast-growing wireless technology industry giant due to the global expansion of CDMA.<sup>202</sup> Qualcomm's strategy was to enter the Chinese market after using the Korean market as a test market for its wireless Internet platform, Brew. Qualcomm was concerned that the WIPI mandate would result in the exclusion of Brew from the Korean market, which was expected to result in Qualcomm losing its proving ground for the larger international market.<sup>203</sup>

USTR insisted that WIPI is a type of non-tariff barrier to trade that is prohibited by the Agreement on Technical Barriers to Trade (TBT) of the World Trade Organization (WTO). The MIC spoke against the claim, and argued that the standard had been developed by a private organization, the KWISF. The MIC often used ostensibly private organizations in developmental projects to conceal government intervention and avoid possible trade friction (See also the IMT-2000 case in Chapter 3). More important, the MIC contended that WIPI was not an issue involving the WTO/TBT but rather an issue involving the WTO/GATS<sup>204</sup>. According to GATS, a government can regulate a certain technology voluntarily selected by a service provider if the technology prevents the expansion of telecommunications services for the benefit of customers. However, the claim from USTR actually delayed the MIC's schedule for setting WIPI as a single mandatory standard for mobile Internet platform.

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<sup>201</sup> Until the issue was settled in April 2004, twelve bilateral trade negotiations meetings were held between Korea and the US.

<sup>202</sup> Qualcomm's fact sheets show that it had a rapid growth during the first commercialization of CDMA technology. The revenue growth rate in the late 1990s is over 100% (110.53% in 1996, 157.57% in 1997). (See [http://www.wikinvest.com/stock/QUALCOMM\\_\(QCOM\)/Data/Revenue\\_Growth/2012](http://www.wikinvest.com/stock/QUALCOMM_(QCOM)/Data/Revenue_Growth/2012))

<sup>203</sup> In August 2002, Irwin M. Jacobs, the CEO of Qualcomm, visited Korea and asked the Minister of Information and Communications, Lee Sang Cheol, and CEOs of major wireless service providers to cooperate for the expansion of Brew.

<sup>204</sup> General Agreement on Trade in Services (GATS) stipulates the comprehensive exception of the agreement in its introduction, "recognizing the right of Members to regulate, and to introduce new regulations, on the supply of services within their territories in order to meet national policy objectives..." (See GATS, p. 285. [http://www.wto.org/english/docs\\_e/legal\\_e/26-gats.pdf](http://www.wto.org/english/docs_e/legal_e/26-gats.pdf))

Furthermore, claiming that WIPI infringed on its MIDP<sup>205</sup> licensing property rights, Sun Microsystems filed a petition with the USTR that called for designating Korea as being on ‘the Priority Watch List’ in accordance with ‘Special Article 301’ in March 2003 (Kim & Kim, 2003a). The MIC argued that WIPI had nothing to do with the intellectual rights infringement case (Kim & Kim, 2003b). The application program interface (API) part of WIPI architecture used the Java language, and most of Java’s source code was open to the public. This was the case because domestic carriers operated their mobile Internet platforms based on the Java language. Sun argued that the API part of WIPI violated the intellectual property right of MIDP, a core component of the Java ME platform for mobile devices. Sun’s ultimate goal was not to earn royalties but rather pursue the *de facto* standardization of its technology. Sun Microsystems intended to make it clear that the new standard, WIPI, had been borrowed from Java. Sun Microsystems wanted to acquire a competitive edge over growing rivals such as Qualcomm and take the initiative by cooperating with Korea on wireless Internet platform technology. In April 2003, Sun Microsystems and the KWISF reached an agreement on a royalty of 17 cents per phone, joint development for the next version of WIPI, reciprocal licensing, and cooperation on WIPI’s expansion.

The pressure from US high-tech corporations and US government agencies protracted and eventually limited the WIPI standardization project. After a two-year stalemate, USTR and the MIC reached a compromise. USTR acknowledged that WIPI was not an issue of technical barriers to trade. They also agreed that the Korean government had the right to set a mandatory national standard for domestic wireless Internet platforms. The MIC accepted the USTR’s request that Brew not be excluded if it was compatible with WIPI. The result was that the MIC decided not to exclude the hybrid types of platforms such as WIPI on Brew from the wireless market. The original goal of WIPI was undermined and the success of WIPI came to depend on the choices made by the end-users of the technology, meaning three wireless carriers.

As a result, the mandatory use of WIPI was delayed, and complaints from domestic stakeholders such as carriers, content providers, and device manufacturers increased again. Carriers continued trying to differentiate their platforms in seeking the lock-in effect. The

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<sup>205</sup> Mobile Information Device Profile (MIDP) is a specification published for the use of Java on mobile phones. MIDP is not a simple Java language, but instead a platform for software applications on mobile devices.

frequent changes in WIPI policies led to increasing costs for device makers and content providers, which increased their distrust of government policies.

## 5.2. The Collapse of WIPI: Interaction between technology, the state, and business

The mandatory use of WIPI began in April 2005<sup>206</sup>, and WIPI became a national standard for wireless Internet platforms in Korea. The WIPI was considered to be a successful project that led to the unification of incompatible wireless platforms, reduced the overlapping investments made by content providers, and contributed to the development of the domestic wireless telecommunications industry (Chae, 2008). However, the government's mandated usage of WIPI as a wireless Internet platform was abolished in December 2008. The abolition of WIPI and other forms of deregulation allowed consumers to use smartphones such as iPhone. The iPhone was released in the Korean market in November 2009, and the explosive growth of smartphone users changed the landscape of the Korean wireless telecommunications industry.

This section attempts to describe what prompted the abolition of WIPI during that time period. First, it examines the technological changes in wireless Internet platforms and how the change impacted Korean wireless telecommunications policy and the industry. Second, it explores how the conflicting interests of business players surrounding Korean wireless telecommunications increased the instability of the existing policy. Third, it reviews whether the reorganization of government agencies influenced policy changes. Forth, it illuminates how the debate concerning the introduction of the iPhone affected the dissolution of the WIPI policy network. Finally, it highlights how the voices of users developed into a political input and was utilized by corporations during the transition period.

### 5.2.1. *Technological/Business model innovation in global mobile telecommunications*

During the late 2000s, the emergence of various software platforms and end-to-end Internet architectures in wireless communications increased the pressure on the traditional business ecosystem that had been dominated by network-operators (Ballon, 2007). The focus of the mobile industry shifted from a single killer application, voice, to various mobile data applications during the late 1990s, and network operators endeavored to maintain their platform

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<sup>206</sup> In July 2004, the legal ground for WIPI enforcement was formulated by revising the Notification of the Ministry of Information and Communications on the Standard for Interconnecting Electronic Communications Facilities. Actual enforcement started in April 2005.

leaderships in a new ecosystem. NTT Docomo's i-mode model and Vodafone's Live! model were prime examples of operators' "walled garden models" that involved mobile portals, micropayments and revenue sharing, distinctions among content providers, and dedicated handsets (Tee, 2005; Ballon & Walravens, 2008; Ballon, 2009). In this model, middleware is a technologically important component of the layers of software architecture on mobile handsets. Wireless device platforms usually consist of an operating system (OS) and middleware. The OS provides common and basic functions for operating hardware, while middleware provides "operator-dependent" functions (Park, 2009a). The telco-centric model was dominant, and the focus on middleware was a technological trend until the early 2000s. Thus, the standardization of wireless Internet platforms, the WAPI project, was propelled based on middleware technology.

However, the rise of new types of platform technology and business models restructured the global wireless telecommunications industry since the late 2000s. First, new platform technologies were introduced by information technology firms, handset manufacturers, and Internet-based companies - mainly US-based transnational corporations - in the late 2000s. These innovations allowed wireless applications to be built and distributed easily, often without the active involvement of network operators (Ballon, 2009, p. 18). Mobile operating systems (OS) such as Symbian, LiMo, Windows Mobile, Android and iOS, which run on high-end smartphones, became increasingly powerful. In this new OS-based environments, the network operator-dependent middleware platform is not always necessary for users who want to access various applications and content on their phones (See Figure 2). Moreover, new technology supports the development of third-party applications by releasing software development kits (SDKs).

These technological changes were accompanied by business model innovations that deconstructed the operator-dominated ecosystem in the global wireless industry. For example, Apple experienced success in leading the industry with the innovative iPhone, and a device-centric business model. Apple's vertical strategy involved designing the handsets, making the operating systems, running the application store, and even choosing the wireless network providers. As a device manufacturer, Apple had the right and responsibility to screen applications and control the profit-sharing structure for distributing applications. Network operators had the power to align content, applications, and device providers in the telco-centric model, while in the device-centric model the device maker functions as portal provider by

choosing and controlling which services will be made available to end users (Ballon & Walravens, 2008). Meanwhile, Google, a dominant Internet service company also constructed its business model for use in the wireless industry. Its business model was similar to Apple in the sense that Google controls the distribution of content and applications made available through its application store. However, unlike Apple, Google opened its OS, Android, which is based on an open source license, to member firms of the Open Handset Alliance (OHA) including Samsung, LG, and Motorola, which helped them compete against other mobile platforms.<sup>207</sup>

Korean government and business players began to recognize that WIPI, which is based on middleware technology and an operator-centric model, did not mesh very well with emergent technological trends in the age of mobile-Internet convergence. During an interview with a government official in KCC who had been involved with the WIPI policy, shows that the MIC paid a great deal of attention to technological change and felt pressured by these trends.

“One of the big disadvantages of WIPI was that we missed the trend of technological evolution in the wireless Internet. The technological trend is not a separate middleware, but a general purpose OS that covers the function of wireless Internet middleware. One regrettable thing was that WIPI could not keep up with the prevailing trends and we could not keep pace with the technological trends as quickly as possible.”

Given that platform technology would soon reshape business models, and even transform entire industries, a closed standard such as WIPI had to be abandoned or adjusted to keep up with the trends. The MIC first attempted to adjust WIPI in order to avoid falling behind global technological trends, and also wanted to avoid being forced to abandon WIPI. In 2007, this concern led the government to announce a strategy for upgrading WIPI and making it into an integrated middleware platform that would run on a general OS (MIC, 2007). Business players in the Korean mobile industry attempted to keep up with the trends. Samsung and LG, the dominant mobile handset manufacturers in Korea, organized the Linux Mobile (LiMo) consortium in conjunction with other global corporations, including Motorola, NEC, NTT Docomo, and Vodafone, to develop Linux-based mobile operating systems for smartphones in January 2007.<sup>208</sup>

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<sup>207</sup> Due to its strategy, Google continuously increased Android’s market share. According to IDC (2012), Android’s market share increased from 0.5% in 2008 to 68.2% in 2012.

(See <http://www.idc.com/getdoc.jsp?containerId=prUS23771812#.UN-yYY53fek>)

<sup>208</sup> Samsung’s effort partially paid off. Samsung provided Orange, a UK affiliate of France Telecom, with the world’s first commercial LiMo phones in February 2008 (See Kim, 2008b).

SKT, a dominant wireless carrier in Korea, co-developed an integrated wireless Internet platform with Motorola, T-PAK, which was based on the version of WIPI that existed in 2006 (Kim, 2006d). LGT, the third largest wireless service provider in Korea, also began modifying its own integrated platform, which was based on WIPI and intended to run on general purpose operating systems such as Symbian and Window Mobile (Park, 2009).

In conclusion, the pressure exerted by global changes in platform technology and business models motivated the Korean government and business players to search for alternatives. However, the alternatives were based on maintaining a national wireless platform standard. The Korean government and business players - mainly handset manufacturers and wireless carriers - were unwilling to consider abolishing WIPI until 2007.

### *5.2.2. Closed market and conflicting interests of business (2004-2006)*

Previous sections examine the government's strategic interest as a developmental state in taking a leading role in establishing WIPI during its initial stage. The national standardization project succeeded in creating a closed market by blocking inter-standard competition and inducing intra-standard competition in mobile Internet communications. From the viewpoint of national interest, intra-standard competition was an ideal strategy for expecting the immediate network effects in the wireless Internet industry and the increase in consumer welfare through price competition. The introduction of intra-standard competition and its consequent walled market might be detrimental to consumer welfare. Regardless of whether or not intra-standard competition is good, the market structure based on intra-standard competition requires some theoretical underpinnings in order to become sustainable: the common interests of the players, the continual development of technology, and competitive advantage over and above other international standards.

However, there were insufficient incentives for business players in the wireless industry to increase the competitiveness of the WIPI standard by means of continuous upgrading. Infrastructure software<sup>209</sup> such as WIPI and OSs usually requires greater investments in technological enhancement than other types of applied software. In comparison with

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<sup>209</sup> Infrastructure software includes application development (AD) and application integration and middleware (AIM), information management software, storage management software, IT operations management and security software and operating system software. (See Gartner's IT Glossary. <http://www.gartner.com/it-glossary/infrastructure-software/>)

transnational corporations' aggressive innovations in platform technology, WIPI made slow progress in improving its competitiveness. WIPI was considered to be software that was competitive due to its high performance and platform compatibility during its inception as a government-led research and development project. However, WIPI has lagged behind Brew<sup>210</sup> soon after the adoption of WIPI as a national standard. Moreover, since the use of WIPI was mandated in 2004, there had been no leading organizations or systems that had taken charge of organizing follow-up investments or solving potential problems when multiple stakeholders worked on upgrading the platform. The KWISF, a forum for the standardization of the wireless Internet platform, had insufficient authority to mediate and coordinate complicated interests among multiple stakeholders that revolved around the WIPI, and failed to earn the trust of stakeholders.

Given this situation, the interdependent and cooperative relationships between stakeholders began to break down due to conflicts of interest. The first fissures originated with mobile carriers who possessed power in the value chain of the wireless Internet market at that time. Wireless carriers intended to lock in customers by differentiating their wireless Internet platforms and associated content. Despite the differentiation strategy, wireless carriers such as SKT, KTF, and LGF agreed with the government to set up a national standard for wireless Internet platforms during the formation of WIPI. After the adoption of WIPI their agreement began to exhibit some limitations, and wireless carriers again turned to the differentiation strategy. Despite the original compatibility goal of WIPI, it once again became difficult to guarantee the inter-compatibility of different carriers' wireless Internet platforms. KTF and LGT delayed the release of handsets that loaded the WIPI version 2.0 even after developing the one and half year version (Kim, 2005a). Wireless carriers used their own interfaces in newly-released services such as mobile 3D games, location-based services (LBS), telematics, and mobile banking (Kim, 2005b). The greater the extent to which each carrier made use of self-developed

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<sup>210</sup> The adoption of Qualcomm's Brew increased to the extent that 69 wireless carriers in 31 countries used it in 2006. Brew went beyond CDMA to GSM and even 3G, WCDMA. Brew evolved to cover the functions of OS. From 2004 to 2006, Qualcomm improved Brew's technological quality and expanded its use as an international standard (Kwon, 2006).



service interfaces that differed from WIPI specifications<sup>211</sup>, the less compatibility each platform was able to offer.

After the obligatory use of WIPI, there were also the conflicts between carriers and device manufacturers (See Table 14). First, the interests of both sides collided with each other. Their clashes revolved around sharing the costs of development and maintenance of WIPI. Wireless carriers such as SKT argued that handset makers should share some part of the development and maintenance costs, while Samsung and LG claimed that doing so was absurd because WIPI ownership was shared among wireless carriers and application developers (Kim, 2005). Carriers and manufacturers later held each other in check concerning platform leadership in the domestic wireless industry. SKT, a dominant wireless carrier, sought to achieve platform leadership by developing its own integrated wireless Internet platform, T-PAK, in 2006. Samsung, a dominant handset manufacturer, refused to install T-PAK on its products (Kim, 2006d). Samsung's opposition to the adoption of the platform led SKT to strengthen cooperation with LG and Motorola. The growth of the 3G service market deepened the conflicts of interests between the players. Although the IMT-2000 service based on WCDMA first appeared in May 2002, the carriers' follow-up investments were delayed. As of June 2005, there were fewer than 3,000 WCDMA subscribers in Korea (Lee, 2012b). KTF, the second largest wireless service provider, began aggressive marketing for 3G service by launching a new brand, 'Show', in 2006. KTF sought to overcome SKT by promoting WCDMA service. As of December 2005, SKT had acquired 50.9% of wireless service subscribers while KTF had acquired a 32.1% market share (MIC, 2006b).

KTF rolled out mobile phone line-up service based on using WIPI on Brew in June 2006 (Kim, 2006c). The reinstallation of Brew by KTF shows that one of the main purposes of WIPI - excluding Brew from the domestic wireless Internet platform market - was actually undermined. In addition, the KTF alliance with LG Electronics introduced a low-end non-WIPI phone for 3G service in 2007. Non-WIPI phone did not load wireless Internet platform itself and targeted consumers who wanted a simple and inexpensive phone without mobile Internet. There were

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<sup>211</sup> The KWISF's standardization committee had an operating regulation that carriers should standardize self-developed specifications in three months. But this was almost a dead letter because no carrier followed the regulation.

complaints from SKT and LGT, but the government allowed KTF to release non-WIPI 3G-exclusive phones as an exception to WIPI.

### 5.2.3. Reorganization of government agency: *The absence of control tower (2008)*

One crucial factor in the retreat of WIPI can be found in the government sector. The government was confronted with technological innovations and business interests, and recognized there were various problems in maintaining the WIPI policy. However, until the “business-friendly” government dismantled the MIC in March 2008, the MIC had attempted to coordinate conflicts between domestic stakeholders and had tried to resist pressures from outside to maintain WIPI, regardless of its actual impact.

For instance, during the several rounds of the Free Trade Agreement negotiations, US delegation strongly maintained that the government-led selection of technological standards, including WIPI, was a trade barrier, and demanded that the Korean government follow the global trends in favor of the free selection of standards by ending its intervention (Son, 2006). The Korean government resisted the US demand, claiming that telecommunications policy, including standards policy, is an essential part of national sovereignty, and the government is responsible for serving the public interest in areas such as interoperability and spectrum auctions. The Korean government did take a few steps towards compromise in the automobile and agricultural industries, but did not make concessions to the US in telecommunications. Korea wanted to maintain foreign equity limits below 50% on major carriers such as KT and SKT and maintain government intervention in the selection of standards (Yoon, 2007). When it comes to the standards policy, both sides agreed upon a compromise that “a party can mandate a specific technology or standard, or limit an operator’s technology choice on the basis of a rulemaking only when market forces have not, or are not expected to, achieve a public policy objective.”<sup>212</sup>

Meanwhile, despite conflicts between business players, the MIC still wanted to promote WIPI up until 2007. The MIC disclosed a plan, the so-called *The Development Strategy of WIPI* in November 2007, and announced that the government had decided to invest over \$6 million in developing the next generation of WIPI by 2010 (MIC, 2007). The MIC also intended to

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<sup>212</sup> See Chapter Fourteen of the Korea-US FTA ([http://www.ustr.gov/webfm\\_send/2791](http://www.ustr.gov/webfm_send/2791)). Joon-Hyung Roh, the head of the MIC, said that the negotiations on telecommunications produced a satisfactory result (Yoon, 2007). But, some critics said that the Korean government managed to maintain already-established standardization policies but left room for undermining the government’s autonomy in the future (KISDI, 2007).

establish a non-profit foundation for controlling and coordinating the contradictory interests of stakeholders, including wireless carriers, device manufacturers, and solution developers. The MIC held several conferences to discuss the development of WIPI 3.0 and establish a consultative body in order to promote WIPI again in 2007 (Lee, 2008d).

However, the MIC, the government agency responsible for promoting the information and telecommunications industry for 15 years, was reorganized in March 2008. The Lee Myung-Bak administration (2008-2013) created the Korea Communications Commission (KCC) by consolidating the old telecommunications regulatory body (MIC) and the old broadcasting regulatory agency (Korean Broadcasting Commission, KBC). Under the new regime, the former centralized information and telecommunications policy-making agency was split up into four different agencies: the regulation of telecommunications and broadcasting was assigned to the KCC, industry-promotion was assigned to the Ministry of Knowledge Economy (MKE), regulation and promotion of the content industry was assigned to the Ministry of Culture, Sports and Tourism (MCST), and overall control of government-informatization projects was assigned to the Ministry of Public Administration and Security (MPAS).

Although WIPI became a major issue in late 2008<sup>213</sup>, there was no centralized control tower to coordinate the decentralized authorities and policy functions related to WIPI. For example, there was month-long debate and a great deal of buck-passing between the KCC and the MKE regarding who had administrative authority over WIPI (Myung, 2008). The abrupt introduction of the Blackberry to the Korean market by SKT in May 2008 reflected the lack of a coordinated viewpoint among government agencies and the confusion regarding WIPI and the mobile industry. The MKE and KCC allowed SKT to release Research In Motion's (RIM) smartphone, the Blackberry, without loading WIPI, the mandatory platform. The ongoing free trade agreement negotiations with Canada might have influenced the government's decision (Song, 2008). Although the market impact of the Canadian state-of-the-art mobile phone was relatively small, the Blackberry case undermined the credibility of government policy.

The absence of a control tower and the lack of coordination were aspects of the policy environment that weakened the WIPI project. After some initial confusion, the KCC once again

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<sup>213</sup> The primary issue that the KCC concentrated on in the early 2008 was the legislation of the IPTV Act. The controversy regarding the introduction of IPTV service catalyzed the creation of the integrated regulatory agency that deals with regulation issues on telecommunications-broadcasting convergence.

became the exclusive authority for dealing WIPI-related issues, but the KCC exhibited a passive attitude regarding the WIPI. Unlike the MIC, which had adhered to the development of WIPI even in the face of market distrust, the KCC announced that it would reexamine every aspect of telecommunications policy, from the ground up since 2008 including the WIPI.

#### *5.2.4. iPhone and deconstruction of WIPI policy network (2007-2009)*

Changes in platform technology trends, conflicting business interests, and decreased government power led stakeholders to question the legitimacy of continuing the mandate of national standards on mobile Internet platforms since 2004. However, aggravated conflicts surrounding the introduction of a new technology, the iPhone, triggered the dissolution of the WIPI policy network.

Wireless carriers began to withdraw from the closed coalition of WIPI. KTF began negotiations with Apple to introduce the WCDMA iPhone in the Korean market in August 2007 (Cho, 2007a). At that time, KTF needed to break down the SKT/Samsung alliance and enlarge its own market share. SKT was a dominant wireless carrier which had a market share of over 50% as a result of using its purchasing power in the handset supply chain. Samsung, a dominant mobile handset manufacturer, had provided its new premium phone line-up exclusively to SKT. Samsung later offered its already outdated line-up to KTF. The alliance between dominant players in both the wireless service and handset industry gave KTF an incentive to cooperate with global handset makers and domestic start-ups such as Pantech. Meanwhile, Apple did not consider the Korean market to be important target because it was relatively small and regulatory hurdles made it difficult to enter the Korean market, including WIPI. Apple had a strategy of giving the exclusive rights to sell iPhones to a single firm in each country. KTF was the second largest carrier and had only a 30% market share in the Korean wireless market. In order to placate Apple, KTF received help from NTT Docomo, its Japanese partner, and reached an agreement with Apple to release the iPhone in the Korean market<sup>214</sup> (Cho, 2007b). After

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<sup>214</sup> NTT Docomo is the second largest shareholder of KTF with a 10.31 % share in 2007. The two companies had such close ties with each other that they often engaged in joint strategic activities such as the co-investment of \$200 million in Malaysia to buy a 33% share of local mobile operator U Mobile in 2007. In 2007, Apple was weighing choosing between NTT Docomo and Softbank for the iPhone deal. NTT Docomo's executives, including the CEO Masao Najamura and KTF's executives had held meetings with Steve Jobs since 2007.

reaching an agreement with Apple, KTF began to push the government to remove legal constraints<sup>215</sup>, including WIPI.

Meanwhile, SKT had gradually changed its stance on WIPI. Prior to 2007, SKT had supported WIPI. When KTF attempted to introduce non-WIPI phones, SKT opposed such attempts by stating that the release of non-WIPI phones would undermine the development of a Korean wireless industry ecosystem based on WIPI. SKT had its own integrated platform, T-PAK, which was based on WIPI. SKT wanted gain platform leadership over other carriers, software developers and even device manufacturers. However, changes in the market and regulations since 2007 induced SKT to rethink its strategy. The commercialization of 3G WCDMA progressed after the nation-wide launch of 3G in March 2007. KTF's marketing increased its 3G subscribers and threatened SKT. It was not until February 2009 that the number of 3G subscribers of SKT surpassed that of KTF. The KCC began to rethink the Universal Subscriber Identification Module (USIM) in 2007 and forced wireless carriers to unlock the USIM chips in the handsets of their subscribers in July 2008, in an effort to broaden user choices and boost sales of third-generation (3G) data-enabled phones (Kim, 2009c). It was supposed to allow subscribers to use any 3G handsets, iPhone and other handsets, by inserting their own USIM chip into it, regardless which carrier had released the device. SKT was concerned that it would be difficult to benefit from exclusive handset sourcing based on its market dominance. In addition, conflicts with device makers such as Samsung and LG increased due to the platform strategy of SKT using T-PAK. As the negotiating leverage of Samsung and LG in price and manufacturing specifications increased, SKT had an incentive to call for the removal of WIPI to check the growing power of the dominant handset manufacturers. At that time, SKT was considering both LiMo and Android. SKT thought that both were economically advantageous compared with WIPI. Both were open-source products that did not require SKT to pay technology royalties. Given these backgrounds, SKT, which had once been a supporter of WIPI, sought to break away from the WIPI policy coalition.<sup>216</sup>

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<sup>215</sup> Aside from WIPI mandates, there existed complicated knots of regulations: (a) location-based service act, (b) international mobile equipment identity (IMEI), (c) phone charger standardization, (d) screening of game image, and (e) ban on exporting national map.

<sup>216</sup> In March 2011, SKT released the iPhone 4 model as one of its handset line-ups. From 2007 to 2011, SKT allegedly attempted to introduce the iPhone but SKT's cooperative relationships with domestic handset manufacturers such as Samsung and LG blocked its introduction.

In a manner contrary to the stances maintained by other carriers, LGT and software developers opposed the abolition of WIPI. LGT returned its 3G license to the government without launching a service based on the North American-style synchronous standard. LGT chose to use the CDMA-2000 1x EV-DO Revision A as an interim solution. This meant that LGT could not provide a WCDMA-based iPhone, unlike KTF and SKT in 2007. LGT claimed that the introduction of popular foreign handsets such as iPhone would increase the disparity between the three carriers and undermine the government policy goal of fostering the mobile industry by promoting “effective competition” between the three carriers. Content providers and software developers with business interests in developing content and software based on the WIPI platform called for the maintenance of the WIPI standard using the “infant industry” argument: temporary protection of new firms can help foster the development of competitive national industries (Cho, 2008a). Even the proponents of the removal of the WIPI in the content and software industry argued that a step-by-step method was necessary for handling the WIPI and iPhone issues.

Dominant handset manufacturers such as Samsung and LG had most benefited from the WIPI mandate, and bitterly opposed the introduction of iPhone by means of abolishing WIPI. The closed market structure allowed both manufacturers to become key players in the global wireless telecommunications market. Their virtuous circle of development involved (a) acquiring monopolistic positions in the domestic wireless handset market, (b) accumulating capital and technological knowhow using the domestic market as a “test-bed”, and (c) making inroads in the global market using low price and high quality. Samsung and LG were concerned that the iPhone would inevitably disrupt the existing markets and value network in the Korean wireless industry.<sup>217</sup>

Samsung and LG had the follower’s advantage because they approached the global leading manufacturer, Nokia, in their production of premium feature phones. However, their smartphone manufacturing capabilities lagged behind those of Apple in 2007. Even if they were unable to stop the introduction of iPhone in the domestic market, Samsung and LG, hoped to delay the iPhone’s introduction and thereby obtain a grace period to improve their smartphone-

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<sup>217</sup> iPhone is an ideal type of “disruptive innovation consisting of off-the-shell components put together in a product” and breaking apart the existing value network. Apple had already combined the commercialized functions of Macbook, iPod, and iTunes into a wireless handset. In addition, its device-centric business model brought about fundamental changes in the mobile industry ecosystem (See Christensen, 1997, p.15).

making capabilities. It was considered to be an open secret that the government delayed the removal of the WIPI mandate in order to give Samsung sufficient time to prepare its own smartphone line-up<sup>218</sup> (Kim, 2009d). Samsung exerted pressure on wireless carriers to delay the introduction of the iPhone. Jae-Yong Lee, the vice executive officer and the son of Samsung's owner Geon-Hee Lee, requested that Tae-Won Choi, the owner of the SK Group, postpone introducing the iPhone.<sup>219</sup> SKT accepted this demand (Kim & Lee, 2010). Seok-Chae Lee, the CEO of KT group, expressed in an email to KT employees, "It was hard for us to introduce the innovative iPhone to our country's wireless market, but we could not have anticipated encountering strong obstruction from two *chaebols*" (Jeong, 2012).

In conclusion, innovations in technology and business models, the absence of a control tower, and the conflicting interests of business players led to the poor performance of WIPI policy. Increasing dissatisfaction with the effectiveness of WIPI policy reduced the legitimacy of the mandate. As a result, the government's WIPI policy attracted increasing criticism from the industry and citizens. They thought that the WIPI policy served policy network insiders who benefited from the closed ecosystem of the mobile industry. The wireless industry and consumers both began to think that WIPI was blocking the diffusion of technological innovations from outside Korea, stifling market competition, limiting consumer choice, and eventually weakening national competitiveness in the global mobile industry.

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<sup>218</sup> An interview with a KCC officer revealed that the government had delayed the abolition of WIPI in order to protect domestic handset manufacturers. He said, "If we had abolished WIPI in 2007 and allowed iPhone to enter the market, could Samsung have succeeded in making Galaxy? We asked Samsung how long would it take to develop a smartphone like iPhone and Samsung answered it would take 9 months. The government's role was crucial in enabling Samsung to prepare the era of the smartphone. That's why a control tower is needed in Korea."

<sup>219</sup> Before the release of the iPhone, Samsung enjoyed market dominance to the extent that it controlled more than 70% of the country's sales of high-end handsets with full-touch screens. In addition, SKT had more than 50% market share for wireless services. After the removal of the WIPI mandate and the market release of the iPhone by KT in November 2009, more than 100,000 handsets were sold in the first ten days of release and 2 million were sold in about a year. However, Samsung and SKT soon recovered their market dominance using a traditional market strategy of monopolistic players. They reduced the price of their high-end phones such as Omnia II by 30% and increased device subsidies. Newspapers published critical reports regarding the iPhone or appealed to nationalistic emotion for the benefit of Samsung, which constituted a considerable portion of their advertising revenue (Lee, 2009a). During two years after the iPhone's release, the debate about the iPhone had been a hot issue in the wireless market and the media. The debate gradually subsided after Samsung launched its first Android-powered smartphone in the domestic market in March 2010 and SKT released the iPhone 4 in March 2011.

### 5.3. The emergence of networked users in the policy landscape and its limitations

It is noteworthy that user voices played a role in abolishing the WIPI mandate using various channels. In the telecommunication policy landscape, the actual users of mobile technology were considered to be a market that business players either sought to capture or passive subjects who conformed to public policy. Understanding individual users as passive consumers was intensified by the neoliberal-developmental policy orientation in Korea. Korean telecommunications policy emphasized the supplier-centric approach that prioritized the growth of the telecommunications industry while ignoring user voices. However, the voices of users became an input that supported the political legitimization of the WIPI policy change.

Consumer organization and the National Assembly have traditionally functioned as a channel for representing user voices. In the WIPI case, the Seoul Young Men's Christian Association (YMCA) was involved in the debate. The KCC delayed making a decision regarding whether or not it would remove the WIPI mandate without a single public hearing. The YMCA held a public hearing to discuss problems and the future of WIPI on August 27, 2008. The panel that made the decision consisted of industry representatives who exhibited a negative view of WIPI. They put forth the opinion that the mandate should be deregulated in order to expand consumer choice, enhance the competitiveness of the mobile industry, and promote overseas expansion (Cho, 2008b). The public hearing contributed to arousing public attention to the policy change. The KCC responded by saying, "it is very difficult to make a quick decision on WIPI due to the large number of stakeholders, but we will reexamine it and devise a new measure" (Hwang, 2008a). The National Assembly was a venue where public opinion questioned the continuation of WIPI. They gathered and exerted pressure against the KCC's policy decision. Lawmakers in the Committee of Culture, Sports, Tourism, Broadcasting and Communications pushed the KCC not to delay the policy decision regarding WIPI in a National Assembly audit in October 2008. The problems involved in continuing the WIPI mandate made the committee recognize the voices calling for change: (a) the WIPI mandate weakened the competitiveness of the mobile Internet industry, (b) it caused the price surge for mobile handsets and limited consumer choice, and (c) it made it more difficult to enter overseas markets due to technical



isolation and trade friction<sup>220</sup> (Kim, 2008f). KCC chairman See-Joong Choi said to lawmakers, “the regulatory body was leaning toward lifting the WIPI requirement,” although citing the need for further discussions due to the complicated web of interests entangling wireless operators and handset manufacturers (Kim, 2008e).

In addition to these traditional channels, individual users who were dissatisfied with the WIPI policy began to express their opinions of the ‘problematic’ government telecommunications policy in cyberspace. Dissident voices online constituted one source of the pressures that affected the WIPI policy change. First, users gathered online and issued an online petition on June 11<sup>th</sup> 2008, called “The KCC and the MKE should remove the WIPI mandate” at the Daum Agora. About 3,000 netizens signed up in several days. Daum Agora is a popular online discussion space that leads public opinion on the Internet in Korea. In this extended “public sphere,” individual opinions grew more powerful and influential on social issues to the extent that it threatened the power of the mainstream media, including *Chosun Ilbo*, *JoongAng Ilbo*, and *Dong-A Ilbo* (Kim, 2008a; Lee, et al., 2010). Online discussion spaces such as Daum Agora took a leading role both in amplifying dissident voices against the government policy regarding US beef imports and in promoting massive participations by citizens in the 2008 candlelight vigils in Korea.

The main argument behind the petition was that the WIPI mandate should be removed to allow innovative foreign mobile handsets to enter the Korean market in order to benefit users. Hundreds of online comments posted to the online petition<sup>221</sup> reflect several significant points regarding the creation of consensus online. First, online comments were largely based on public distrust of the “business friendly” policy orientation of the Lee Myung-Bak government, closed telecom policy-making systems, and monopolistic device manufacturers. Online debaters

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<sup>220</sup> The pressure from foreign governments and corporations during the deconstruction of WIPI (2007-2009) was not as strong as during the formation of WIPI (2001-2004). However, as the abolitionist campaign against the WIPI arose inside Korea, foreign governments actively expressed their anti-WIPI stance to the Korean government through various channels. For instance, in July 2008, the Finland Ambassador to Korea visited the KCC and passed on the Finland government’s opinion that “whether the WIPI will be loaded or not should be entrusted to the market’s autonomous decision” (Kim, 2008g). The US government mentioned the problems with WIPI during the third round of talks on bilateral trade issues in Washington D.C. from October 28 to 29, saying “the WIPI mandate does not keep up with the rapid change of global telecommunications industry, and impedes Korea’s own technological developments, undermines the right of consumer choice, and acts as a possible trade barrier to foreign products” (MFAT, 2008).

<sup>221</sup> This section focuses on comments posted to online petitions from June to July 2008 (See <http://bbs3.agora.media.daum.net/gaia/do/petition/read?bbsId=P001&articleId=50170>).

thought that the government policy was a problem because it prioritized the interests of domestic device-manufacturers based on economic nationalism. For instance, ID zvz443 argued that the most serious problem in the WIPI removal debate was Korean conglomerates disguising their business interests as “flimsy patriotism.” ID ibadak expressed the idea that the WIPI policy is “the reiteration of isolationism in late 19th century Korea” that failed to see global trends and instead followed an anti-modern and feudalistic ideology.

Second, there were balanced debates on the WIPI policy, instead of unilateral arguments. In addition to arguments calling for the removal of WIPI, there were also opinions to the effect that the WIPI mandate should be maintained for the purpose of national industry protectionism. For example, ID haengbok lamented that citizens who had cheered “IT powerhouse Korea” abolished the nation’s homegrown mobile Internet platform. ID oribal argued that the original goal of the policy was to support small and medium-size software developers instead of protecting handset-manufacturing conglomerates, and that the removal of the policy would lead to the meltdown of domestic software companies and content providers.

Third, the online comments reflect that the debate began with ambiguous objections to the WIPI policy but did reach a sort of consensus. During the initial stage, emotional reactions to the online petition continued without knowledge of the nature, effects, and problems with the WIPI policy. Participants who did possess sufficient information regarding the policy began to express their opinions, and the discussions became more informed, polished, and less polarized. Unlike the initial stage, the debate posted with the online petition appeared to reach a consensus: (a) participants acknowledged the positive accomplishments of the WIPI in promoting the domestic information and communications industry, (b) nonetheless, the WIPI did restrict consumer choices for the benefit of domestic device manufacturers, and (c) the right thing to do was not to shut down the entire WIPI program but rather eliminate the WIPI mandate.

The argument that the government would keep WIPI, while not making it mandatory, does not appear at first glance to be a reasonable solution, given developmentalist and protectionist motivation behind WIPI. The WIPI mandate, not WIPI standard itself, functioned as a technical barrier to trade that blocked foreign handset makers from entering the Korean market. However, before the online discussion occurred in 2008, few predicted that smartphones would diffuse so rapidly in the Korean market. In the wireless industry, industry experts and government officials thought that a compromise - the removal of the WIPI mandate while

maintaining WIPI itself – was a rational option. One reason was that the regulatory agency could “save face” by keeping their ‘successful’ WIPI project alive and keep open the possibility of upgrading WIPI for non-smartphone handset market. The other was that the proponents of the removal of WIPI in industry could import foreign smartphones such as the iPhone. Interestingly, the consensus in the online debate conformed to the prevailing view regarding the future direction of the WIPI policy among policy experts at that time.

In addition to the online petition, the role of the users online community called for a closer examination in order to better understand the deconstruction process of WIPI regulation. For instance, *Asamo* (<http://cafe.naver.com/appleiphone>), Korea’s largest iPhone user community had 1.31 million members as of December 2012. It took a leading role in mobilizing public opinion against the WIPI mandate in cyberspace. *Asamo* was built in December 2006, 3 years before iPhone’s release in Korean market. It functioned as an information window where users who were potentially interested in iPhone congregated and exchanged information about iPhone features such as design, user experiences, release date, and so on. Hundreds of online posts in *Asamo* show that the process of exchanging information led the members of the online community to start to define the WIPI mandate as a problem and a barrier to the introduction of iPhone.

Users in *Asamo* began to call for the removal of WIPI and the introduction of iPhone. They engaged in various online and offline activities. First, users in *Asamo* brought up issues related to the introduction of iPhone to the government, filed complaints with government organizations, shared replies from the government with other users and explained how to file official complaints. For instance, article 58(2) of the Radio Waves Act in Korea specified that all mobile devices should pass authentication procedures or spectrum conformity assessments conducted by the National Radio Research Agency (NRRA) before import, production and sales. ID padacel asked the NRRA whether iPhones purchased in the US could be used in Korea and posted the government’s negative reply on *Asamo* on June 6, 2008. ID myungsu95 suggested the filing of a joint complaint with the KCC and shared information about how that could be done on June 11, 2008. Users in *Asamo* also became actively involved in the online petition on Daum Agora. For example, ID myungsu95, bumcar2, wish114, and other users collaborated to revise the text of the petition several times, and this included gathering opinions from the online comments made by other users. Users such as ID river\_kr and ID hawk 1520 encouraged *Asamo*

members to participate in the online petition during this period. Users in *Asamo* often tipped off the news media by providing information about the WIPI policy. For instance, ID bumcar2 posted email he had sent to the Korean Broadcasting System (KBS), Munhwa Broadcasting Corporation (MBC), and several newspaper companies, requesting that they release news about the “injustice” of WIPI regulation on June 11, 2008.

Although these activities had no legal effect on the government’s decision, it contributed to arousing public opinion calling for the rethinking of the WIPI mandate. These protests pressured the government because it had delayed deciding whether or not to remove the WIPI mandate. An interview with a KCC officer revealed that government recognized the voices of user in cyberspace and it was an issue for the government to consider in deciding the direction of WIPI policy.

“We knew that early adopters who want to buy iPhone and users who had experiences using while overseas raised their voices in cyberspace. They said that WIPI had blocked the introduction of iPhone. They filed an online petition at Daum Agora but the number of participants in the petition was not large. I remember *several tens of thousands of people gathered*. It was one of the factors surrounding the WIPI to be reconsidered at that time, but it was the voice of some heavy users, and not from the large masses of ordinary consumers.”

During the open-ended interview, the government officer mainly talked about the accomplishments of the WIPI policy and stressed the necessity of reviving the “IT control tower.” The officer was a statist and developmentalist who often exhibited negative attitudes towards the dissident users who disliked the WIPI. The interviewee attempted to stress the legitimacy of WIPI policy by emphasizing the development of the domestic software/wireless device industry. The officer intended to differentiate dissident users from the silent majority who he described as “ordinary consumers.” Nevertheless, the KCC officer overestimated the number of people who participated in the online petition. This shows that the activities of users in online spaces exerted pressure on policy-makers in the regulatory agency.

An interview with a KTF manager who was involved in the introduction of the iPhone indicates that the voices of users in online communities were one type of pressure that forced the government to rethink the WIPI policy. Both the KCC officer and a KTF manager remembered that more people gathered than was actually the case. The online user movement against the WIPI mandate may have exerted some psychological pressure on business elites and political elites in the policy field. More important, wireless carriers were interested in eliminating WIPI.

These carriers were also involved in using the voices of online users to achieve a specific political goal. Non-institutional policy actors' desires for policy change are often realized when they exerted political influence through institutional policy actors such as the National Assembly and mainstream media.

“It was true that *Netizen* pushed the government to change the policy in the introduction of iPhone. Users online wanted iPhone, and were the largest source of pressure on the government. I often met the head users of online communities such as *Asamo*, *Setizen* and so on, asking them to file petitions with the National Assembly and letting them know where they could do so. Our team actually led them to petition in online for the abolition of WIPI. *I remember that it took only two days for the online petition to gather over 6,000 people.* The voice of *Netizen* was useful in strengthening the pressure on the government. I think that the government officials substantially, at that time, considered the voice as a pressure.”

The dissident voices of users in online space were used to promote the interests of business players. KTF, the second largest wireless carrier in Korea, wanted to challenge the market dominance of SKT by introducing the iPhone to the domestic wireless service market. Users voluntarily gathered and protested the telecommunications policy that had been created by the mixture of government goals and business interests. Ironically, the corporate interests soon leveraged users' motivations and movements in online space. In taking the boastful mind of the interviewee into account, some overstatement may be present but it is obvious that there was a close connection between lead users and the wireless carriers in the context of the controversy regarding the introduction of the iPhone.

The linkage between wireless carriers and the online community of iPhone users was close during the introduction of the iPhone. In addition to making concerted efforts to remove the WIPI mandate, carriers and the user community cooperated in solving problems brought about by “unprepared” launch of the iPhone. In the contemporary telecommunications industry, users appear at the center of technological innovation (Hippel, 1988; 2005, Tuomi, 2003). It is common for corporations to work with user groups in testing user experiences or usability for the purpose of enhancing product/service quality (Kuniavsky, 2003). In this sense, making use of users in online communities as a test group does not appear to be new or noteworthy. However, the iPhone case is unprecedented because carriers released it without sufficient pre-testing before release. For a network operator, a network reliability test is required before the service release. Testing is common. Specialized departments within a wireless carrier must confirm that a device

that is scheduled for release will fit into its network following a series of tests for a new mobile handset release. Carriers were once able to control the supply chain of device under the operator-centric business model and ecosystem, but things have changed. Wireless carriers actively cooperated with online user communities for iPhone. An interview with a head user of *Asamo* reveals why and how carriers sought help from the user community.

“The iPhone case was very unusual. Service operators could not complete enough tests before its release (...) So, many problems occurred. The wireless companies contacted us and gave us the new phone whenever it was released. We tested the new services a lot. (...) For example, before SKTelecom released its iPhone, the company asked us to check whether voice calls and Facetime worked on its network. (...) Before the service was released, users and staff members of our online community attended a lot of meetings with SKT.”

What brought about this paradoxically close relationship between users online and wireless carriers? Users voluntarily gathered online and contributed to arousing public opinion against a government policy developed in a closed wireless policy-making system. The closed system mainly served for the interests of business players in the industry, including wireless carriers. The desire of users in this case was in accordance with that of wireless carrier on the key point that both parties wanted the government to allow imported iPhones into the Korean wireless market.

The growth and commercialization of user communities is another answer to the phenomenon. Interviews with lead users revealed that *Asamo* was initially a “small-world network” used by a handful of bloggers and early adopters with expertise and an interest in new technology products such as the iPhone. Before the release of iPhone, *Asamo* functioned as an online forum that called for the removal of WIPI. The early membership of *Asamo* was enthusiastic about sharing their knowledge of new trends in information and communication technology, including the iPhone. The opinion leaders of this online community whose members shared a “family-like” sympathy and took pride in being a “trendsetter.” The information that *Asamo* produced rapidly diffused to other blogs and online forums through the cutting-and-pasting of member writings. The number of members increased before and after the iPhone release, and soon reached over one million members. The quality of shared information began to degrade and “lighter” and irrelevant online writing became much more common. The result was that active members of the original small-world network dropped out of the *Asamo* online community.

The commercialization of the user community increased as the number of community members skyrocketed. There was an increasing need to make group purchases of iPhone accessories among community users. One crucial function of the user community in Korea is community buying. The practice of community buying challenged traditional commerce works by providing individual users with bargaining power. Group purchasing saves users' money, time and effort. Unlike other brands, Apple had a large preexisting fan base because it had an innovative and "cool" cultural image. A long queue of fans on the iPhone's new model launch day was an emblem of "cool" in popular culture and reflected the high degree of brand loyalty among Apple fans. This maniacal brand loyalty often led iPhone users to become obsessed about iPhone accessories. After group purchasing skyrocketed, the nature of *Asamo* gradually changed from being a self-informed user community to becoming a commercial community. Some lead users established a small company to administer and support group purchases and other commercial activities. This researcher was able to identify the commercialization of online communities in Korea during interviews. Online communities with large numbers of members have been traded between lead users and community administrators in Korea because popular online communities have been regarded as profitable business opportunities.

#### 5.4. Conclusion: Neoliberal-developmental state and networked users

This chapter examined interactions between the state, transnational corporations, foreign governments, domestic corporations, technology and users during the formation and deconstruction of the Korean mobile Internet platform standard, WIPI. This chapter identified some of the relationships that existed between them and uncovered facts that have received little previous attention.

##### *Neoliberal-developmental features of policy change and complexity*

Some scholarly research on the WIPI has highlighted the leading role of government. Cho (2003) suggested the concept of "flexible governance" could be used to explain features of the policy-making process in Korea after telecommunications liberalization. According to Cho (2003), government abandoned its position as the exclusive provider of telecommunications services, but it maintained leadership over the industry by promoting national R&D and standardization projects despite liberalization. Lee and Oh (2008) point out that other projects such as digital multimedia broadcasting (DMB) and wireless broadband (WiBro) exhibit similarity to the WIPI

project. Song (2009) argues that “closed policy network” and “path dependency” are crucial reasons for government-led policy-making in national R&D and standardization (p. 177). Kim (2011) points out that the WIPI project shows that the Korean state retains a strategic long-term approach to its industrial policy, and the developmental state model has not yet withered away. These arguments make it plausible to say that the developmental state model never went away. The tradition of state intervention was repeated in the wireless telecommunications industry despite accelerated liberalization and deregulation after the Asian economic crisis in the late 1990s (the so-called the ‘IMF crisis’). Their arguments are useful for understanding the initial stage of the WIPI policy.

However, the WIPI case should be understood in the context of the Korean-specific neoliberal-developmental state. The state exerted strategic leadership over the domestic telecom industry for the purpose of improving national economic growth while interacting with global forces. At the same time, the state functioned as a facilitator that sought to create favorable business conditions and support business interests. However, the power relationship or linkage between state and business has been continuously reconfigured, depending on the changing political and economic environments on both the global and national levels.

During the formation, and dismantling, of the WIPI policy, interactions between the state, transnational corporations, and domestic business changed continuously and reconfigured the policy network surrounding the WIPI. The government took the leading role in forming the WIPI project, which was driven by its information-based economic model. The interests of transnational corporations and foreign governments were one of the primary pressures on the government’s autonomy and developmental practices. The interests of domestic business players, including handset manufacturers and wireless carriers, were sometimes in agreement with the government and were sometimes in conflict with government goals. However, in the early stage of the WIPI policy, the close state-business linkage facilitated the development of WIPI while reacting strategically to pressures from transnational forces.

The previous chapters illuminated how control of the Korean wireless industry shifted from the state to domestic corporations. When government policies failed to meet the business players’ needs as a result of changes in the technology and business environment in the global mobile Internet industry, the legitimacy of WIPI policy rapidly weakened due to resistance from business players. Given that the role of the state is to create and preserve an institutional



framework for meeting business needs, it was inevitable that government eventually removed the WIPI mandate because it became discordant with business needs.

There was an alliance between domestic corporations and transnational corporations at each stage of the WIPI policy change. Global competition for platform leadership in wireless telecommunications was tied to the Korean domestic market situation. Conflicts of interests between coalitions were amplified and the policy landscape surrounding WIPI became more complicated. The Korean market was a proving ground or test-bed for transnational corporations in the global information industry that was used to scrutinize the business potential of their products and services. The WIPI case shows that the alliance between domestic and transnational corporations was an influential factor that decreased the power of government within Korea's borders.

*Online deliberation and the possibility of considering users as citizens*

Users in online communities emerged as actors who were not so easily ignored in the policy landscape as before. In the WIPI case, potential users of the iPhone took a partial role in arousing public opinion in favor of the removal of the WIPI mandate. It might be an overstatement to say that the voices of users were the key factor in the WIPI policy change. However, it was true that their voices were a form of pressure in the policy-making process, which included channels such as civic groups, the national assembly and media.

User activities in the case of WIPI are not evidence of deliberative democracy, though online deliberations during the online petition process may be a precursor of more discursive and democratic changes in Korean wireless telecommunications policy. Some cyber-pessimists question the quality of deliberation in online space and consider online discussion spaces to be a chaotic space where personal attacks or polarized opinions predominate (Davis, 1999; Shapiro, 1999; Sunstein, 2001). Online discussions may be too superficial a forum for sustaining robust political deliberations, as skeptical scholars argue. However, online discussions that occurred in the context of the online petition for the removal of WIPI reflect informed and less polarized forms of discussion. This researcher found that the online debate emerged out of ambiguous objections to the WIPI policy, grew to include opposing voices that supported WIPI, and eventually reached a consensus regarding the need to abolish the WIPI mandate.

Online community culture allows widely-dispersed users to create an online space to discuss and protest telecommunications policy. Users dissatisfied with *the status quo* organized

themselves in online communities using new media. New media reduces the cost of organizing, participating, and protesting to the extent that it allows a single individual to create and circulate an online petition using a small laptop (Earl & Kimport, 2011). Their actions might occur without such technologies, but the technologies allow users to organize their desires or motivations more easily than before. Shirky (2008) points out in his book *Here Comes Everybody*, new media tools do not necessarily create the desire to organize but instead provide an alternative platform for human desires to be achieved. He provides a description of power law distribution which shows that leaders exist in online groups, unlike the concept of leaderless crowds. In the WIPI case, ‘potential’ users who desire to use new wireless communications device such as the iPhone gathered online and created large user communities by sharing their knowledge, experience, and opinions. The small-world network of lead users led the formation of the online community, and established the foundation for user community growth.

In the WIPI case, networked users exhibited the potential to be understood as active citizens through online deliberations. However, their deliberations were limited to small-scale discussions of a particular issue. Their online participation did not directly influence policy changes, but did influence policy changes indirectly through existing political channels such as the national assembly and traditional media. Furthermore, they questioned the closed Korean telecommunications policy system, but their desires were essentially founded upon consumer interests. In this case, this researcher cannot assert that users were deliberative citizens in the context of online democracy. Nevertheless, it is true that they constitute an emerging policy actor and also represent a new concept of users, meaning networked users, who may be pointing the way to a more discursive and deliberative policy-making process that extends beyond the closed system found in Korean wireless telecommunications.

*The limitation as a counter-power: the commercialization of user community*

Castells (2009) provides a larger perspective for understanding the resistance of users in online communities. “Counter-power” is the capacity of social actors who do not believe they are well-represented by the existing system to challenge existing power relations. Social change occurs when the counter-power succeeds in challenging the norms and rules of society’s institutions. “Mass-self communication” involves using new communications technology to provide social actors with a medium for confronting existing institutions. “Autonomous” mass-self communication does not require the approval or intervention of the state or mainstream media.

Castells suggests that there is a crisis of legitimacy of the nation-state due to globalization and the rise of communal identities which challenge the boundaries of the state. His view is that the decline of the nation-state was precipitated when “the principles of citizenship and the principles of self-identification” come into conflict with each other (Castells, 1997).

In the WIPI case, networked users in online forums and communities are motivated to challenge the existing policy regime that was previously been dominated by state goals and business interests. The new media allow networked users to inform themselves, initiate discussions and deliberations, and act as policy actors in the changing policy network of the WIPI. However, their influence on the policy-making process was realized through the existing powers of institutional policy actors such as the national assembly and the mainstream media. Users’ self-identification as global consumers, and their antipathy to the government’s nationalistic policies led them to resist against the WIPI policy. This researcher is uncertain whether or not user activities undermined the legitimacy of the state in this case. More important, networked users in the WIPI case were neither autonomous nor free from the state, the mainstream media, and businesses. The interviews in this chapter reveal that business players such as wireless carriers actively utilized the emerging voice of users to help induce the government to change the WIPI policy. This chapter notes that the growth of user communities and its consequent commercialization allowed the collective actions of users to be utilized by business players.

It can be said that the role of users in online community in the WIPI case was limited in comparison with other online user communities, which played a leading role in opposing the unification of mobile prefixes. This topic is examined in depth in the next chapter. This chapter argues that networked users cannot change existing power-relations by acting alone. However, their power of resistance has a positive effect on the wireless telecommunication policy-making process by virtue of complicating interactions and policy networks that involve policy actors. Thus, this researcher suggest that policy researchers pay more attention to users in cyberspace as a new policy actor in order to better understand the recent changes of policy-making process and policy networks in telecommunications.

## **CHAPTER 6. The battle over telephone numbers: The change in Korean wireless number policy and the networked users.**

Telephone numbers are more than just numbers. Telecommunications networks always require a system of numbers and/or letters that enable communications by identifying the location of each party. Telephone numbers are an integral component of telecommunications infrastructure, and function in a manner similar to street addresses in traditional mail and IP addresses in Internet communication.<sup>222</sup> Telephone numbers are not a scarce resource in and of themselves, because the number of telephone numbers is theoretically infinite. However, telephone numbers would be a worthless combination of numbers without rules and numbering systems. Thus, telephone numbers have been regarded as a ‘scarce’ national resource whose utilization should be decided by the state in many countries, just like the radio spectrum.

The modern telephone numbering system is the outcome of international rules and national policies. The International Telecommunications Union (ITU) assigns the country codes for individual nations and regulates the use of digits. The international public telecommunication numbering plan in ITU-T E.164 specifies that a complete telephone number should have 15 or fewer digits. Given this rule, a nation-state is free to implement the exclusive right to assign telephone numbers within its borders and develop different types of numbering plans. For instance, the US developed the North American Numbering Plan (NANP), an integrated ‘geography-based’ system consisting of three-digit area codes and seven-digit telephone numbers used for both landline and wireless services. The U.K. took a different approach when it created a ‘service-based’ numbering plan in which landline phone numbers require area codes while mobile phone numbers have their own service codes depending on carriers.

Despite the importance of telephone numbers, policies regarding telephone numbers attracted little attention outside of technical circles. However, the deregulation of telecommunications markets worldwide brought into existence some policy issues regarding telephone numbers: What is the most efficient way to allocate telephone numbers, who should own telephone numbers, and what should be the best telephone number policy for promoting

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<sup>222</sup> Telecommunications infrastructure usually refers to a set of basic physical structures such as exchangers, routers, cables, transmission stations, antennas, and so on. Here, the telecommunications infrastructure is defined using a broader concept that includes protocols, numbering systems, and other types of software that telecommunications networks require to function.

market competition. In order to address these issues, scholars and policy-makers focused attention on number portability. Number portability, including local number portability (LNP) and mobile number portability (MNP), refers to rules or systems that allow telephone users to retain their telephone numbers when they move between telephone service providers.

Many scholars have researched number portability using either the market-based approach or the economic approach. Gans et al. (2001) suggests that governments implement the “transferable ownership” of telephone numbers and require carriers to bear the costs of implementing number portability. Haucap (2003) proposed moving away from administrative number allocation to a market-based auction mechanism on the grounds of non-discriminatory access, efficient number allocation, and low transaction costs. Their studies draw upon the idea that using a market-based and property rights-based approach is the most efficient way of allocating scarce resources such as the radio spectrum (Hayek, 1945; Coase, 1959). More particularly, a great deal of economic analysis has focused on illuminating the impact of MNP implementation on market competition and consumer welfare (Aoki & Small, 1999; Buehler & Haucap, 2004; Park, 2011; Srinagesh & Mitchell, 1999). Another stream of studies on wireless telephone number policy has primarily involved statistical analyses of subscriber preferences or customer behavior regarding MNP (Gerpott, et al., 2001; Shin, 2006; Park et al., 2007; Shin, 2011). These studies have provided insights that are useful for understanding policy issues that are related to wireless telephone numbering systems.

However, market-based, number portability-centric, and economic analyses are not helpful for understanding the Korean mobile telephone number policy which various actors influenced and continuously changed. Korean wireless telecommunications has a unique background. First, the main debate concerning mobile telephone numbers has not involved a MNP but rather the prefix unifications policy in Korea. After telecommunications liberalization, the government gave separate prefixes to each new licensee, and this consequently led to six different mobile prefixes (010, 011, 016, 017, 018, and 019) being used in Korea. The carrier-specific allocation of mobile identifications numbers<sup>223</sup> was thought to have caused the “inefficient use of limited national resources” (KISDI, 2009, p. 31) and undermined market

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<sup>223</sup> In Korea, mobile telephone numbers have an 11-digit number structure (e.g. 01Y-NYYY-YYYY). The first three numbers to identify the carrier network to which a user belongs. Thus, numbers such as 010, 011, 016, 017, 018, and 019 are known as mobile identification numbers or prefixes. In this chapter, both terms are used interchangeably (See Table 15 and Table 17).

competition. In order to solve this problem, Korean telecommunications regulators have pursued mobile prefix unification to 010 since 2004. However, this policy was delayed and often changed to forms that were different than the original plan due to conflicting interests among wireless carriers. Second, the more noteworthy and unusual element was the recent development of an active user community that resisted the mobile prefix unification policy. An online user community that opposed the consolidation of mobile prefixes into a single prefix 010 (<http://cafe.naver.com/anti010>) exerted political pressure that could not be ignored during the policy making process.

Given this background, this chapter seeks to understand (a) the historical changes in mobile number policies by focusing on interactions among policy actors and (b) the role of ‘networked’ users in the democratic changes that occurred in the telecommunications policy-making process. The first part of this chapter thus examines how telecommunications liberalization led to problems with the wireless telephone numbering system in Korea. The first part of this chapter investigates how interactions between business interests and governmental goals led to inconsistent changes in mobile telephone number policy. The second part of this chapter will examine the wireless telephone numbering controversy that occurred from 2008 to 2012. This chapter analyzes how and why networked users, who wanted to continue to keep and use their wireless numbers, resisted the government and corporations. This chapter will rely on historical methods, interviews with users and the materials they wrote in online forums.

### 6.1. Government goals, business interests, and inconsistent mobile number policy

This section provides a historical account of how Korea came to have a unique wireless number unifications policy and examines the main factors that led to its ‘inconsistent’ changes. This section argues that the carrier-specific allocation of mobile telephone prefixes was the outcome of a power-shift in the Korean wireless telecom industry following telecom liberalization. In addition, this section analyzes how ‘neoliberal-developmental’ government policy goals and business interests led to the complicated and problematic mobile prefix unification policy used in Korea.

#### *6.1.1. Telecom liberalization and the carrier-specific allocation of mobile phone number*

Korea developed a hybrid style of telephone numbering plan based on both geographic area and services, unlike countries such as the US (See Table 15 and Table 17). As of April

2013, local landline phone numbers consists of both an area code and a subscriber code. Korea uses 37 area codes, 16 codes of which are in use, while the remainder are classified as reserved codes. Subscriber codes consist of 3-4 digit exchange codes and 4-digit subscriber numbers. 7-8 digit subscriber codes are used in Seoul metropolitan area, and 7-digit subscriber codes are used in other areas. As regards mobile phone services, the structures of telephone numbers are similar to landline telephone numbers in the sense that they also consist of network identification codes, exchange codes, and subscriber numbers. However, network identification codes were allocated to each wireless service provider, instead of area codes, until the government decided to give a common code, 010, to 3G service providers in March 2002. For this reason, six different “carrier-specific” codes (010, 011, 016, 017, 018, and 019) have been used for mobile telephone numbers in Korea.

The carrier-specific allocation of wireless prefixes was the result of wireless telecom liberalization under the Kim Young-Sam government (1993-1998). Prior to the rapid introduction of market competition by means of privatization and new licenses, Korea Mobile Telecom (KMT) provided analog cellular service using the prefix “011” and 10-digit numbers (011-NYY-YYYY).<sup>224</sup> The SK group, one of the leading *chaebols*<sup>225</sup>, became a major shareholder of KMT when public enterprises were privatized in January 1994. SK Telecom (SKT), the new name given to what had previously been a public monopoly, continued using the popular 011 mobile prefix, which had a considerable subscriber base. After privatization, a series of new licenses for wireless telephone service were given to conglomerates. Shinsegi Mobile Telecom (SMT), whose dominant shareholder was POSCO, the largest steel manufacturer in Korea, received a license for a new cellular service in June 1994. Three new telephone service providers, KT Freetel (KTF), LG Telecom (LGT), and Hansol M.Com (HMC), obtained their licenses for Personal Communications Service (PCS) from the government and launched their service in 1996. Market competition increased, and the number of mobile subscribers went up from 6.8 million in 1996 to 32.3 million in 2002 (See Table 16).

The introduction of market competition to the wireless telecom industry brought about a policy issue concerning wireless telephone number allocations. When the government gave a

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<sup>224</sup> In the telephone numbering system, N signifies 2~9, X means 1~9, and Y means 0~9.

<sup>225</sup> A *chaebol* is a family-controlled conglomerate in Korea such as Samsung, Hyundai, LG and SK. They are also domestic-based transnational corporations. See Kwon, S., & Suh, C. (2003).

new cellular license to SMT, it was concerned about which identification code would be allocated to the service. The Ministry of Information and Communications (MIC) initially intended to allocate the same prefix, “011,” to SMT. The prefix “011” was originally intended to be an identification code for mobile service, not as a proprietary code for a dominant wireless carrier (Kim, 2010).

However, because SKT was already using 3-digit exchange codes (NYY) based on geographic areas at will, the number of available exchange codes that made use of “011” was insufficient for allocation for SMT’s new cellular service. Faced with the problem, the MIC reviewed an alternative plan to have SMT and SKT share the same prefix “011” by extending exchange codes to include 4-digits number (NYYYY). However, the incumbent player vehemently opposed to the MIC’s plan. SKT argued that memory chips in mobile handsets were designed specifically to be used with a 10-digits number plan (011-NYY-YYYY), and contended that the overall cost of handset replacements would become excessively high. In addition, SMT also requested a new prefix for its service in order to use numbers as a marketing tool. The MIC eventually assigned the prefix “017” with a 10-digit number plan to SMT. Mobile telephone number resources that amounted to 16 million combinations under two different prefixes (011-NYY-YYYY and 017-NYY-YYYY) entered use for mobile services at that time. This was the beginning of “carrier-specific” mobile numbering plans, as opposed to the service-specific plans which were then common in Korea.

The MIC looked at their past experience with “017” and thought that it might be best to determine identification codes for PCS service before awarding licenses. During the first half of 1996, the MIC created a task force for the purpose of developing a new number allocation policy for PCS, and held a public hearing to collect opinions from businesses and other parties. The prevailing view that emerged from the task force and the public hearing was the suggestion (a) that the common identification code “018” should be allocated to three PCS licensees, (b) that subscriber codes would be eight-digit numbers (NYYYY-YYYY), and (c) that different blocs of exchange codes would be assigned based on carriers. In addition, it was suggested that “011” and “017,” which were already in use by two cellular service providers, would be integrated into a new mobile number system based on the prefix “018”.

However, market players were strongly opposed to these policy suggestions. Three PCS licensees argued that allocating additional one-digit numbers would be contrary to the principle



of fair competition. They were concerned that eight-digit numbers would be less competitive in the market than seven-digits cellular numbers (Choi, 2006). Meanwhile, the incumbent cellular service providers, SKT and SMT, were against the plan to integrate “011” and “017” into “018” as a long-term project, on the grounds that handset replacement costs would add up to over \$1 billion (Choi, 2006). At that time, unifying mobile numbers into “018” was suggested as being the most reasonable alternative for securing fair competition, increasing consumer benefits, and for meeting the need to have numbers in reserve for future services. While the policy decision on wireless number allocation was delayed, the process of awarding licenses for PCS was hastily completed due to the neoliberal policy orientation of Kim Young-Sam government (See Chapter 2). This situation led the MIC to succumb to the interests of PCS licensees and allocated different identification codes (016, 018, 019-NYYY-YYYY) to each licensee.

It is possible that the MIC was unable to fully comprehend the future problems that were to be brought about by the “carrier-specific” allocation of numbers. An interview with a KCC officer who was involved in policy-making at that time shows that the MIC “did not think that so many wireless communications numbers would be used like that during a short period at that time” and decided upon the policy for bureaucratic expediency purposes. They failed to anticipate the enormous growth of the mobile market and the sorts of problems that would occur in the future. The MIC allocated different mobile identification numbers to each licensee so as to avoid conflicts with business players in the mobile industry.

However, more significant is the fact that the telecommunications liberalization program driven by the Kim Young-Sam government in the 1990s functioned as a political or structural constraint on the MIC’s decision. Power in the telecommunications policy-making process shifted away from a handful of elite bureaucrats to business players during the 1990s telecommunications liberalization program. The problem is that neoliberal policy package included privatization and licensing decisions that were conducted in a quick and unprepared manner. The MIC did not have sufficient time to prepare long-term guidelines for the mobile numbers policy during the hastily implemented liberalization of wireless telecommunications. Mobile identification numbers were allocated after the license awarding process had concluded,

so it was inevitable that the MIC would decide upon a mobile number policy that met the interests of licensees.<sup>226</sup>

To be short, the interests of business players in the Korean wireless industry influenced policy decisions regarding the allocation of wireless prefixes. The hasty liberalization program for wireless telecommunications was driven by the Kim Young-Sam government's active acceptance of neoliberal globalization, and this led to the inefficient allocation of mobile prefixes. The ill-planned and hastily implemented allocation of mobile prefixes resulted in excessive costs and efforts in seeking to establish a unified "service-specific" wireless numbering plan later on.

#### *6.1.2. Effective competition as a policy goal and mobile number unification policy*

The introduction of the International Mobile Telecommunications-2000<sup>227</sup> (IMT-2000) meant that policy issues regarding mobile number allocation were once again in the spotlight. The MIC acknowledged the existing mobile number policy was a failure and hoped to reform it during the process of awarding 3G licenses (Seong, 2010). The MIC had learned from the cellular and PCS cases, and attempted to develop a long-term plan for establishing a common mobile identification number system before beginning the licensing of IMT-2000.

After a 2002 review by a task force and outside experts, the outline of the new mobile number policy was determined: (a) "010" was to be a common code to be allocated for 3G services, (b) 2G identification numbers such as "011", "016", "017", "018", and "019" would be withdrawn, and (c) mobile identification numbers would be integrated into "010" within five years after the launch of 3G service. Along with mobile number unification to "010", mobile number portability (MNP) was also designed to be one of the crucial measures for implement the reform. However, the reform was drawn out over the course of time and modified by the interest

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<sup>226</sup> An interview with a KCC officer who had been involved in the allocation reveals that the interests of business players in the mobile industry were influential in policy decisions. He recalled the process of wireless number allocation in the late 1990s. He said "we were planning to force three PCS licensees to use the same number. However, the PCS licensees opposed the plan, and argued that it was unfair to have to share it with a dominant cellular service provider SKT later on. Newcomers to the wireless industry expressed interests in being given their own prefixes. We thought that there would be no shortage of available numbers in the future, and so we decided to give different prefixes to each PCS player."

<sup>227</sup> IMT-2000 basically means a standard framework for the 3rd generation of mobile telecommunications technologies (3G) specified by the ITU. Various 3G standard such as EDGE (TDMA), CDMA-2000, W-CDMA, TD-CDMA, and TD-SCDMA have been used worldwide, or depending on specific areas. Except when it is necessary for specifying a certain technology, "3G" will be used in this chapter.

of business players during the 2000s. It eventually led to the rise of the voices of users protesting the unification of mobile numbers.

It is important to note that the reform of mobile number policy was based on the idea known as “fair competition” or “effective competition.” Generally speaking, liberalization involves a market opening that aims to stimulate competition in the expectation of some sort of economic welfare benefit such as improved market growth or customer choice. However, that benefit is insufficient because incumbents are likely to both possess advantages over latecomers and engage in actions detrimental to competition. There is thus a strong need for regulation to secure “effective competition” after liberalization. Telecommunications is a key network industry, along with electricity and transportation, to which this logic of effective competition has been applied. After telecommunications liberalization, most countries devised and implemented policy measures to help ensure “effective competition,”<sup>228</sup> such as essential facility sharing, price-cap regulations, asymmetric interconnection rates, and so on.

The monopolistic market structure of the Korean wireless telecommunications service market began to change after the entry of new operators such as SMT, KTF, HMC, and LGT. During the two years after the introduction of competition, the market share of SKT, the leading incumbent, declined (See Table 16). The fierce competition among the five wireless service providers in seeking to acquire new subscribers resulted in the rapid growth in the number of mobile phone users. The number of mobile service subscribers was approximately 6.8 million in the end of 1997, and reached about 32.3 million as of December 2002 (See Table 16). During this period, mobile operators waged a marketing war that involved offering handset subsidies to new subscribers and deploying massive advertising campaigns<sup>229</sup> in order to increase their market share as rapidly as possible. However, financial strains increased due to large marketing

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<sup>228</sup> Since Clark (1940) suggested the concept of “workable competition”, it has been widely accepted that competition policy should not seek to achieve the ideal of perfect competition, but should, instead, formulate proper criteria for judging to what extent an industry is workably competitive. While “effective competition” in competition law can be secured by means of simple prohibition against anti-competitive business activity, it cannot be achieved without some *ex ante* regulation specific to the market in telecommunications.

<sup>229</sup> During this period, mobile operators emerged as several of the top ten advertisers in the advertising industry. For example, in 2002, SKT spent approximately \$130 million (No. 1 advertiser, 5.2% of advertising market) and KTF spent about \$70 million (No. 3 advertiser, 2.8%) in advertising (Oh, 2007, p. 54).

expenditures combined with large mobile handset subsidies<sup>230</sup> and led to mergers and acquisitions among operators. KTF acquired HMC in April 2001, and SKT acquired SMT in March 2002. SKT's acquisition of SMT raised concerns about the possibility of reduced competition in the wireless service market. This concern led the Korean Fair Trade Commission (KFTC) to approve the M&A on the condition that SKT reduce its market share to less than 50%. SKT actually became the largest shareholder of SMT in December 1999. One result of this ruling was that SKT decreased its market share by declining to accept new subscribers. As of July 5, 2001, the market share of SKT fell below the 50% target. Soon afterwards, SKT's market share began to increase again and rose to over 53% at the end of 2002.

The market structure which had been created around 2002 solidified, and the dominant market position of SKT became unbreakable. This situation of the mobile market led policy makers to think that further market concentration would produce undesirable results such as the stifling of competition and limited consumer choice, and they became aware of the need for appropriate policy measures. A typical set of policy measures was "asymmetric regulation,"<sup>231</sup> which both provided advantages to new entrants and also placed stringent regulations on the dominant incumbent. The MIC forced asymmetric interconnection rates for both fixed and mobile service that were favorable to new entrants. For example, the amount that new entrants had to pay to the incumbent was set close to the cost of termination on the incumbent's network, and the incumbent's equivalent fee to the entrants was arranged to represent the higher cost of termination on the entrants' networks. Considering the retail price regulation imposed on SKT, these cost-oriented access charges on termination certainly benefited new entrants (Yoon & Kim, 2004, p. 755).

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<sup>230</sup> The Korean government prohibited wireless carriers from providing subscribers with handset subsidies starting in June 2000. Mobile handset subsidies were a crucial factor in the rapid growth of the Korean wireless telecommunications market. In 1998 and 1999, carriers offered nearly \$6 billion in handset subsidies. However, excessive handset subsidies led to massive deficits among wireless carriers. New PCS carriers recorded approximately \$2 billion in total deficits from 1997 to 2000.

<sup>231</sup> "Asymmetric regulation" is usually divided into two areas, *ex ante* regulation and *ex post* regulation. *Ex ante* regulation is a strong form of market intervention conducted by the telecommunications regulator (i.e. the MIC in Korea) before a market activity. *Ex post* regulation generally refers to anti-trust, merger regulation, arbitration and penalties required by general competition law or fair trade regulator after a market activity (i.e. the KFTC in Korea). As regards *ex ante* regulations in wireless telecommunications, there are (a) restrictions on retail prices and interconnection rates (b) essential facility sharing and regulations on wholesale prices, (c) bans on handset subsidies, and (d) mobile number portability.

The reform of the mobile number policy was another asymmetric regulation based on the principle of “effective competition.” The regulatory agency recognized that advertising mobile identification numbers as brand names was a barrier to entry in the form of existing consumer buying preferences. It would cost new entrants large amounts of money to buy market share. The market dominated by SKT constituted an impediment to fair competition. SKT created a strong brand known as “Speed 011” and it was associated with the numerical mobile prefix. From 1997 to 2004, SKT never used its company name or product name. It instead emphasized the carrier-specific mobile prefix, “011” in its advertising campaign. Many users preferred “Speed 011” service because they perceived that they exhibited prestige when they used it. The result was that “Speed 011”<sup>232</sup> became the dominant brand and was ranked first among consumer brands, including cars, electronics, foods, and so on. Yoon and Kim (2004) illuminate that the brand image of the dominant player is strongly related to subscriber churn and customer loyalty in the Korean wireless service market.

“People in the wireless telecommunications industry started to indicate that one of the main reasons for SKT’s dominance might be its brand marketing, ‘Speed 011’. The need for a mobile prefix unification policy arose out of that. Some argue that a mobile prefix is a public asset or national asset, and there is no reason for government to allow a certain company to benefit from having the exclusive right to use the prefix, 011.”

An interview with a KCC officer who had been involved in the mobile number policy change reveals that the reform of the mobile number policy sought to weaken the advantage held by the incumbent player, meaning the brand power it had acquired from using a carrier-specific prefix. The officially mentioned objectives of reforming number policy<sup>233</sup> included the crucial goal of creating a “fair competition” environment by making it impossible for operators to use their mobile identification numbers as sources of marketing power. In order to accomplish this policy goal, the government developed two basic policy approaches: (a) overhauling the existing carrier-specific mobile number allocation system and (b) allowing users to retain their mobile telephone numbers when they move among wireless service providers. According to these

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<sup>232</sup> As of December 2002, “Speed 011” had a consumer preference of over 70% in most customer surveys, and had ranked top in the National Customer Satisfaction Index for consecutive 5 years since 1997 (SKT, 2002).

<sup>233</sup> The regulatory agency often declared that there were three policy objectives supporting reforms of the mobile number system: (a) making efficient use of telephone number resources, (b) preventing the use of a carrier-specific prefix as a brand, and (c) enhancing consumer convenience (See KCC, 2010d).

approaches, the government promoted the unification of mobile prefixes to “010” since 2002. The government also introduced mobile number portability (MNP) and began imposing MNP on mobile carriers ‘asymmetrically’ in 2004.<sup>234</sup>

### *6.1.3. Conflicting business interests and the modification of mobile number policy*

The MIC began implementing the reform of mobile number policy in 2002. The conflicts of interests between network operators made policy implementation protracted and inconsistent starting during the initial stage. In February 2002, the MIC released the basic plan for changing the mobile number system. The essential point of the plan was to integrate existing mobile identification numbers into “010” within five years after the launch of 3G service and implement mobile number portability (MNP) within 6 months after at least two providers launched 3G services. The MIC decided to introduce MNP only to 3G services, saying “if we introduce MNP directly to 2G service, it would be damage the competitiveness of latecomers” (Kim, 2002a). However, latecomers such as KTF urged the government to deploy a full-scale MNP in 2G before launching 3G services (Kim, 2001). KTF and LGT also proposed introducing number pooling<sup>235</sup>, instead of number portability, to 2G services in order to eliminate the tipping effect driven by “011” brand marketing. These proposals triggered a backlash from SKT. SKT supported the original plan of the MIC and argued that “number pooling in 2G service will undermine the government’s efforts to reform mobile number policy” (Kim, 2002b). It appears that SKT expected the carrier-specific number system in use at that time to be maintained under the plan. SKT also expected to maintain its competitiveness based on using “011” brand marketing for some time to come.

The conflicting interests between the three network operators led the government to change the original policy direction. The “mobile number improvement plan” announced in January 2003 that the MIC did not accept the number pooling plan that the latecomers proposed,

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<sup>234</sup> MNP in Korea was introduced not simultaneously but in phases. In the first phase (January to June 2004), MNP was applied only to SKT subscribers. Other carriers such as KTF and LGT could gather subscribers who wanted to keep their 011 prefixes but wanted to use KTF’s and LGT’s service. However, SKT could not gather subscribers who wanted to use SKT’s service while keeping their KTF and LGT numbers. In second phase (June to December 2004), MNP was applied to SKT and KTF. In the last phase, MNP was applied to all three wireless carriers.

<sup>235</sup> While number portability involves the premise of carrier-specific prefixes, number pooling indicates that providers share available number resources that have common network identification numbers. For example, KTF and LGT hoped to share the numbers of 011-XXXX-XXXX with their 2G subscribers, which had not yet been assigned to SKT.

citing consumer confusion. The MIC instead decided to introduce “010” to 2G service earlier than had been scheduled. 2G users were expected to use mobile phone number with “010” because MNP would start on January 1, 2004, according to the MIC’s new plan. In addition, the plan specified that MNP, which had been intended for use only with 3G service in the original plan, would be expanded to 2G service and would be imposed on each carrier on a six-month interval basis.

The early introduction of “010” to 2G service and the asymmetric introduction of MNP incited controversy among stakeholders. KTF and LGT welcomed the plan, while SKT opposed it, claiming that mobile phone numbers are “just about consumer choice, and are not an object of government regulations” (Kim, 2003a). Furthermore, this raised the suspicion that the Minister of Information and Communication, Sang-Cheol Lee, had bestowed unfair benefits on latecomers because he had been a chairman of KT group immediately before being appointed minister. SKT even threatened to take a legal action against the plan (Park, 2003). The MIC refuted the allegations, pointing out that they conducted public opinion surveys. The MIC also claimed that third party institutes conducted research and that “number pooling would have been adopted if the MIC had intended to disadvantage SKT” (Shin, 2003). Meanwhile, the KT group was accused of directly benefiting from the new plan. KT countered the suspicion by claiming that number pooling favorable to KT was denied by the MIC for the benefit of SKT and that the introduction of MNP to 2G was late in comparison with other countries.

The conflicts between the regulatory agency and business players surrounding mobile number policy were dampened by political factors. The ruling party, the Millennium Democratic Party, supported the MIC’s plan through a policy consultation meeting, and claimed that they were concerned that “nationwide confusion might take place if the previously-announced policy is overturned” (Kim, 2003d). The presidential transition committee for incoming president Moo-Hyun Roh also supported the MIC on the condition that it introduce measures to reduce shocks caused by the early introduction of “010” and number portability (Kim, 2003e). The debate over the new mobile number plan in early 2003 reflects that the power of regulatory agency was decreasing to the extent that the regulator alone was unable to coordinate the conflicting interests of business players.

However, in December 2003, the MIC modified its number policy because public opinion had become unfavorable towards it. After the result of public opinion surveys conducted by the

Korea Information Strategy Development Institute (KISDI) turned out to be fabricated<sup>236</sup>, the MIC's mobile number plan in early 2003 was criticized as being the result of closed and undemocratic decision-making. It was revealed that the MIC and the KISDI concealed the survey results that were contrary to its policy. SKT pounced on the opportunity, and tried to arouse public opinion against the MIC's mobile number policy. The conflict surrounding the mobile number policy began to attract the attention from the National Assembly. The Minister of Information and Communications, Dae-Jae Jin, who had been inaugurated under the Roh Moo-Hyun regime (2003~2008), acknowledged the need for flexible implementation of the number policy during the parliamentary audit and inspection of the MIC held on September 23, 2003 (Kim, 2003b). The original plan to mandate the compulsory integration of existing mobile identification numbers to "010" by 2007 was abandoned at the end of the year. New guidelines that were released in December 2003 decided that the unification of mobile prefixes would be reviewed when the transition rate to "010" reached 80%.

Conflicts among mobile carriers continued after the revision. Disputes over mobile number prefixes often escalated into legal actions. For instance, in November 2003, KTF filed a complaint over SKT's application for making "Speed 011" its trademark, claiming that their exclusive marketing rights to the prefix "011" should be nullified because a mobile prefix is a national resource controlled by the government (Jung, 2003). The Korea Intellectual Property Tribunal denied SKT's exclusive rights to the prefix in May 2004, and ruled that SKT could not register "Speed 011" as its trademark. In addition, mobile carriers raised the issue of the allocation of exchange codes. The MIC decided that it would reallocate exchange codes under "010," except for 3XXX for new subscribers for 3G<sup>237</sup>. If a 2G user who had a 011-2XX-XXXX telephone number wanted to get 3G service, he could use a 010-N2XX-XXX telephone number for his new 3G service. However, carriers were divided over the issue of who would get 010-9XXX-XXXX telephone numbers, because over 8 million 2G subscribers from three carriers were already using 9XXX telephone numbers that used the 011, 016, and 019 prefixes.

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<sup>236</sup> For instance, in a pool of 1000 respondents, 74 percent said that MNP should be imposed on each carrier at the same time for consumer choice and fair competition (Kim, 2003f)

<sup>237</sup> In order to prevent a dispute, the MIC started to allocate exchange codes for 3G to each carrier through a lottery in 2003. For example, SK received the exchange codes 31XX, KTF got 30XX, and LGT got 39XX through a lottery in November 2003.



Despite these disputes, the mobile number unification policy continued without major changes until 2007. Although number portability from 2G to 3G, and a detailed number unification plan was supposed to have been developed further, the center of gravity in wireless telecommunications policy shifted to the early settlement of number portability during this period. In April 2006, the MIC modified their existing policy, established in 2003, that MNP should be applicable only to 3G. According to the “Plan for the Introduction of MNP between 2G and 3G,” a 2G user who was already using the “010” code could subscribe to WCDMA service without changing their telephone number. This meant that users who were not using the “010” code could not switch their service over to WCDMA without changing their current phone numbers.

The interests of mobile carriers once again came into conflict when LGT launched its Revision A<sup>238</sup> service as an alternative for 3G in 2007. LGT argued that the existing “019” prefix should be used for its new service because the service was based on the 1.8 GHz frequency band, which was already in use for its 2G service, and evolved out of the same technology along with 2G, EV-DO (Cho, 2007c). SKT requested the MIC to stop them from launching the Revision A service if “010” were to be allocated to the service. KTF was the only company to insist that “010” should be used for the service in order to ensure policy consistency and fair competition. SKT’s intention was to postpone the unification to “010” for as long as possible because it benefited from its carrier-specific prefix, “011”. KTF concentrated its’ efforts on expanding 3G and transitioning into “010” in order to remove SKT’s advantage in the 2G market. The relatively high conversion rate to “010” among KTF subscribers indicates that KTF had adopted rapid transition to 3G as a core competitive strategy (See Table 19). After the dispute over prefix allocation, the MIC decided to allocate “010” for Revision A service and mandated that LGT comply with MNP policy in October 2007. Part of the background for this decision was that the MIC thought that LGT was greedy not only because it had abandoned its responsibility for investing in synchronous CDMA1x EV-DV network in order to save its 3G spectrum fee,<sup>239</sup> but

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<sup>238</sup> LGT got a 3G license on the condition that it would be based on the North American-style synchronous standard, CDMA2000 1x EV-DV in 2001. But, it returned its license to government without launching the promised service, and instead used CDMA-2000 1x EV-DO Revision A as an interim solution.

<sup>239</sup> The spectrum fee for synchronous CDMA1x EV-DV amounted approximately \$1 billion.

also because it had attempted to keep its prefix “019” for use in the new service in order to prevent subscriber churn.

In conclusion, it is clear that the reforms of mobile number policies the MIC had attempted since 2002 had been affected and modified by the conflicting interests of mobile carriers (See Table 18). During this period, mobile number policy was basically supplier-centric. User confusion was created by the policy, but was seldom taken into consideration during the policy-making process. There was a power game going on between the regulators and business players during every stage of the mobile number policy. The legacy of the developmental state perspective induced the regulators to push for reform of the mobile number policy, while business interests were the main forces in favor of modifying the path of the policy. However, there was no room for the voices of the users in the policy landscape during this period. Users had begun to resist the government by pointing out the problems caused by the inconsistent and supplier-centric mobile number policy in effect since 2009. The next section in this chapter examines how the voices of users emerged, their influences on mobile number policy, and how interactions among users, corporations, and the government unfolded in the context of the recent wireless telecommunications policy landscape.

## 6.2. Battle over numbers: the rise of networked users and mobile number policy

Around 2009, the regulatory agency and business players in Korean wireless telecommunications began encountering an unusual element not previously found in former telecommunications policy landscape: the ‘networked’ users. Although there had been changes in the environment surrounding mobile number policy, meaning changes such as the market transition to 3G, the introduction of the iPhone, and the reorganization of government agencies, the rise of the voices of users was an exceptional development, given that users had previously been considered to be passive consumers in supplier-centric policy and the market. This section explores the changes in the mobile prefix unification policy and focuses on the role of users.

### 6.2.1. *Networked users as a new policy actor: Temporary number portability (2009-10)*

The number of “010” users rapidly increased after the MIC began to allocate “010” to 3G users and new subscribers by revising the Rules for Number Administration in 2004. One key reason for the increase is that mobile operators sought to attract 3G subscribers because the average revenue per user (ARPU) for 3G users was higher than for 2G users. KTF was the

second-largest mobile carrier to adopt the “3G All-In” strategy in seeking to overcome their dominant rival, SKT. The strategy used by KTF resulted in a rapid transition to “010” both in its own subscriber base and across the entire wireless service market (See Table 19).

The transition rate to “010” began to approach 70% in the late 2008. The KCC, a new regulatory agency, suggested that it would implement the compulsory unification of mobile identification numbers into “010.” In October 2008, the KCC reaffirmed the guideline that the unification to “010” would be reviewed by an external professional organization and would be fully implemented when the transition rate reached 80% in order to “guarantee the efficient use of numbers, one of Korea’s limited national resources” (Hwang, 2008b). As examined above, the three mobile carriers were divided on the issue of mobile number unification. SKT hoped to maintain its current benefits from existing number system, and did not welcome rapid unification. Although the market trend leaned toward 3G, SKT attempted to slow down the transition of its subscriber base to 3G. For example, SKT released more than ten types of 2G-only mobile handsets in 2009, while other companies rushed to provide 3G terminals, including the iPhone. Meanwhile, KTF and LGT supported the rapid implementation of mobile number unification, expecting to find an opportunity to disrupt SKT’s market dominance by removing its prefix-associated brand power in the 3G service market.

During this period, unlike the case for the policy-making process in the past, new pressures militating against the mobile number unification policy emerged. For instance, *Netizens* began to file and sign the online petition expressing opposition to compulsory mobile unification to “010” in online spaces such as *Daum Agora*, then the most popular online discussion forum for expressing public opinions on the Korean Internet. The main argument made by the petitions was that mobile phone numbers were an important part of user identities and that the state had no right to coerce users to abandon their mobile phone numbers. Several online petitions regarding the mobile prefix unification policy had been sporadically filed since late 2007. It appears that they failed to gather a considerable amount of signatories.<sup>240</sup> Nonetheless, the petitions were a precursor of user resistance against the policy, which started becoming organized in the online “public sphere.”

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<sup>240</sup> One representative online petition that opposed the number unification policy gathered only 756 signatories in June 2008. See <http://bbs3.agora.media.daum.net/gaia/do/petition/read?bbsId=P001&articleId=38870>

More noteworthy was that users gathered in the online community and began expressing opinions concerning mobile phone number policy. The exemplary case was the Movement Headquarters Against 010 Unification (<http://cafe.naver.com/anti010>, *010통합반대운동본부* in Korean, hereafter the headquarters). The headquarters was a small online community established at the *Naver Cafe*<sup>241</sup> service in August 2007. In its early stages, the headquarters was an online space for facilitating simple social gatherings among users who wanted to share complaints regarding the mobile number policy. However, as problems related to mobile number unification policy began to attract intense media attention around 2009, the number of users who joined the headquarters increased to more than 27,000. It is important to note that this headquarters was not exceptional among the online community cultures, which emerged after the rapid diffusion of broadband Internet service in Korea in the early 2000s. *Netizens* were accustomed to expressing and sharing their opinions using a variety of online formats such as writings, photos, and videos. They became actively involved in shaping public opinion on specific issues and began taking action offline as well. Historic mass protests such as the nationwide candlelight vigils in 2002<sup>242</sup> and 2008<sup>243</sup> in Korea reflect that the seeds of protests that had been sown in online discussion forums such as *Daum Agora* and discourses from cyber space exerted significant influence on the development of later protests. This online culture became depoliticized and later expanded into other topics in everyday life.

The arguments made by headquarters users were relatively simple. As previous chapter reveals, the closed market system driven by the *de jure* national standards for mobile Internet platforms in Korea had led to a three-year delay in the introduction of smartphones such as the iPhone compared to the US. After the removal of the WIPI mandate, the iPhone was released in Korea in late 2009. The number of 3G-based smartphone users rapidly increased, and mobile

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<sup>241</sup> *Naver Cafe*, an affiliated service of Naver, was launched in December 2003. Naver is a popular search portal in Korea, and has a market share of 73% among search engine services as of December 2011 (See <http://www.webcertain.com/WebCertain-Search-and-Social-Report-2011.pdf>).

<sup>242</sup> On June 13, 2002, two thirteen-year-old girls were killed after being run over by a US army armored vehicle during off-base training. The tragedy and the ensuing US military trial that acquitted the drivers of responsibility for the deaths ignited widespread anti-American feelings among all sectors of society and led to a nationwide protest.

<sup>243</sup> From May to August 2008, hundreds of candlelight demonstrations occurred to protest the government's decision to import American beef. Protesters criticized the government for abandoning quarantine sovereignty during trade negotiations with the US, despite nationwide fears of mad cow disease and calls for revision of the beef import agreement.

service market in Korea was reshaped by the rapid spread of new technology. In this situation, the number of users who wanted to adopt smartphones and keep their existing mobile phone numbers also increased. However, they were unable to do so because using 2G prefixes for 3G services was not allowed under the mobile number unification policy. A user whose mobile phone number was 01X-NYYY-YYY was not allowed to use 3G-based smartphones without changing the phone number to 010-NYYY-YYYY. The dissonance between user desires and government policy led online community users to raise their voices against the policy.

“From the beginning, we did not oppose the mobile number unification policy itself. We did not care whether and when government would unify mobile prefixes. Our only wish was to keep using the same phone numbers that we have been using for a long time. Let us use smartphones as others do, while maintaining our numbers. That’s all.” (From interview with Min-Ki Seo, a lead user at the headquarters)

In 2010, users at the headquarters began taking actions in the policy landscape regarding mobile phone number unification. The debate concerning whether and how to implement the mandatory use of the mobile prefix “010” intensified when transition rate to “010” exceeded 80% in February 2010. Users at the headquarters went beyond simply posting and sharing their complaints, and started to become actively involved in shaping public opinion regarding the number policy. First, users developed a cooperative relationship with civic groups such as the Korean Young Men’s Christian Association (KYMCA) and the Korean Green Consumers Network (KGCN). These civic groups have been calling for the abolition of the mobile number unification policy, and argued that a phone number is “a consumer’s precious property for keeping human connections and the primary goal of mobile number policy should be the protection of this right” (Lee, 2009b). Lead users at the headquarters began accumulating basic knowledge about the mobile number unification policy by contacting civic activists and acquiring unofficial and hard-to-find documents produced by regulatory agencies and companies. Min-Ki Seo, a lead user of the headquarters said in his interview for this study,

“We were frogs in a well that did not know much about the policy. After understanding what’s wrong and how to solve it, we began letting the world know that we’re here. For example, when we got news that a forum or a hearing was going to be held, we clarified our stance by emailing journalists. When the KCC announced a related policy, we released a statement about that. These activities allowed our movement to attract more media attention, and the number of our members increased.”

Media attention increased, and the headquarters became more active than before. They continued to call and email the KCC to complain about the number policy. In addition, the headquarters held an online fund-raising campaign among community members to pay for several newspaper advertisements to inform public about the unfairness of mobile prefix unification. Furthermore, lead users began to attend public forums and hearings that discussed the direction of the mobile number unification policy. On July 7, 2010, Yong-Gyeong Lee, a National Assemblyman, organized a policy conference where the key policy stakeholders in the policy, the KCC, KT, SKT, LGU+, the ETRI, and the KGCN, participated. Min-Ki Seo, a lead user at the headquarters, attended the conference and claimed that the government should “acknowledge the failure of compulsory mobile number unification and reexamine the policy from the ground up” (Myeong, 2010). It was unprecedented in the Korean policy landscape that a lead user of a small online community was officially invited to a policy conference and that his claim attracted media attention.

The KCC had difficulties persuading various stakeholders during this time period. For example, when the KCC held a public debate forum to justify the mandatory unification of mobile prefixes in March 2010, this action served only to recognize once again the difficulty of coordinating various interests. A survey conducted by KISDI revealed that 93% of 01X users in Seoul and six major cities did not intend to change their mobile phone numbers (KISDI, 2009, p. 54). SKT insisted on program involving the gradual integration of mobile prefixes in order to protect their “011” and “017” subscriber base, while KT and LGT supported rapid unification in order to guarantee fair competition in the mobile service market. Interestingly, KT proposed an alternative in the forum, and said that “if a used phone number with 01X could be displayed on a receiver’s phone even after a caller changes his/her phone number to 010, it will contribute to reducing consumer complaints” (Chae, 2010). Civic groups such as the KYMCA argued that the policy goals of preventing the development of prefix-associated brand power and securing fair competition had already been accomplished, and that 01X should be retained for the benefit of users (Lim, 2010). In addition, the revision of the Telecommunications Business Act was proposed in the National Assembly by lawmaker Yong-Gyeong Lee on July 18 2010 in order to allow 2G users to use 3G service without changing their phone numbers (Sim, 2010).

The KCC was pressured by conflicting interests among carriers and critics regarding the policy, and decided not to implement compulsory mobile number unification. In September 2010,

the KCC announced the policy of “temporary number portability” as a modification of the mobile number unification policy. The new policy postponed the mandatory transition to “010” until after all of the wireless carriers terminated their existing 2G services. “01X” users were allowed to use 3G service without being forced to transition to “010” for 3 years. “01X” numbers were to be displayed on a receiver’s phone even for callers who changed their numbers to “010” (KCC, 2010d). It was a collection of compromises. The KCC wanted to maintain the framework of the mobile number unification policy while avoiding criticism by temporarily allowing 01X users to use 3G-based smartphone without changing their numbers.

Interesting point is that the reorganization of the regulatory agency facilitated the acceptance of users’ voices. Since 2006, business players and politicians had continuously voiced the need for an integrated regulatory agency that would regulate both broadcasting and telecommunications in order to adjust to the trend towards media convergence. Before the reorganization, the industry and the policy network was divided into two advocacy groups: telecommunications and broadcastings. As converged media services such as IPTV emerged, two groups were divided and fought with each other. After debates and preliminary works, an independent regulatory commission, the KCC, was established in February 2008. It was modeled on the FCC in the US. This reorganization of the regulatory agency meant that the centralized decision-making system under the control of one minister changed into a more politically pluralistic decision-making system under the control of six commissioners (See Table 20). The ministry-type governance system emphasized speed and efficiency in the policy-making process. However, under the new commission-type governance system, policy-makers in the regulatory agency were required to listen to additional opinions on policy issues. An interview with a KCC officer, Jun-Hee Lee, revealed that a fundamental change in the policy-making process occurred under the commission-type governance system.

“There’s a crucial change in the policy-making process regarding telephone number policy since the reorganization. In old times, things went like this. ‘Hey, listen to the voice of grumbler and just go according to our plan. What matters is policy consistency.’ But, now, ‘Hey, listen to the loud voices of users. What’s wrong? Is there a way to accept their demands? What if we cancel the policy?’”

It is obvious that the voices of users exerted an undeniable influence on the policy-making process regarding temporary number portability, although the interviews conducted as part of this research reflect that some had differing opinions regarding whether or not user voices

actually affected the policy. For instance, a KCC officer, Yeon-Jin Kim, who had charge of phone number policy, tended to devalue the role of users in the policy-making process, saying “I think the policy unfolded with consistency. There has been no major change. The real problem is that a small group of users have completely false ideas about the policy.” However, other interviewees with the KCC and wireless carriers acknowledged that the collective voices of users in the online community were too loud for them to ignore. Jun-Hee Lee, a KCC officer directly involved in establishing the temporary number portability policy in 2010 stressed that users from the headquarters gave KCC officers a hard time.

“Consumers had never acted in an organized manner before that time, even though they made complaints about government policies. *Only carriers knew how to mobilize political power...* At that time, users and civic groups made a big thing about the policy and pressure from the National Assembly. And then, we all were called by lawmakers and had to explain the policy to them over and over again. It was a really tough time.”

This interview indicates that an important change driven by networked users had emerged in the wireless telecom policy landscape. According to the KCC officer, business players in the wireless industry mobilized political power over the government regulatory agency in order to pursue their corporate interests. Wireless carriers had many years experience at influencing government policy through various channels, including the National Assembly, the mainstream media, and others. The result is that wireless telecom policies has been developed and reconfigured mainly by corporate interests in conjunction with the government goals. However, networked users in this case began to mobilize political power to change policy.<sup>244</sup>

Telecommunications policy scholars have given little attention to the role played by individual users in the policy-making process. Markets, interest groups, and even the state have been regarded as the key force that drives policy changes. However, a limited victory on the part of networked users in a battle involving mobile telephone number policy in Korea shows that individual users who gather together online can function as an active policy actor and exert political influence on policy changes by interacting with other formal and informal policy actors.

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<sup>244</sup> In this researcher’s view, the emergence of networked users might be a new idea to politicians and policy-makers in telecommunications. In the Korean context, civic groups were often considered by policy-makers to be ‘professional dissidents,’ who engaged in opposition for opposition’s sake. In this situation, actual users’ voices received attention from politicians and policy-makers.



### 6.2.2. Networked users and online legal mobilization for the policy change (2010~13)

Although the KCC mandated temporary number portability as a compromise in September 2010, users at the headquarters were not satisfied with this “makeshift” measure. The users were concerned that they would be required to change their 2G numbers three years later and be in conformance with the temporary number portability policy. The revision of the Telecommunications Business Act that sought to allow 2G users to use 3G without changing their numbers was proposed in July 2010 and was pending and unlikely to be passed by the National Assembly. The proposed revision failed to attract attention from politicians because the proposer was a member of the Creative Korea Party that had a small number of seats in the National Assembly, and larger political parties had reservations about them and their ideas. The KCC managed to dampen the attention of politicians from the major parties by announcing temporary number portability. Users at the headquarters began to think about taking legal action.

The first important legal action involved filing a petition with the Constitutional Court. Before users at the headquarters filed a constitutional petition, they requested that the Korean Board of Audit and Inspection (KBAI) investigate the unfairness of temporary number portability policy on December 8, 2010.<sup>245</sup> However, it was just an action that was intended to retain media attention immediately before the constitutional petition. The users’ move to bring the case to court was the strongest action ever attempted to urge the government to revoke the mobile number unification policy. If the Constitutional Court accepted the petition, the KCC would have to completely abolish the “unconstitutional” policy. The headquarters gathered 1,447 petitioners online in one day - December 11, 2010. After holding an explanatory meeting and hiring a law firm, Jang Baek, to act as their legal representatives, users at the headquarters submitted a petition to the Constitutional Court on February 2, 2011. The submitted petition claimed that the KCC’s policy decision infringed on the right of “human worth and dignity” and the right to “pursue happiness” protected by the Constitution (Article 10), the right to equality (Article 11), the right to privacy (Article 17), and the right of property (Article 24). The

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<sup>245</sup> The KBAI introduced the Citizens’ Audit Request System in July 2001 in accordance with the provisions of the Anti-Corruption Act. Citizens may request audits related to public sector organizations in which the violation of laws or corruption could seriously undermine the public interest. Users at the headquarters used this audit system.

Constitutional Court decided to refer the case<sup>246</sup> to trial on February 28, 2011. The percent of constitutional petitions dropped was approximately 79% in 2010, according to data released by the Constitutional Court for the annual parliamentary audit (Lee, 2011a). Users at the headquarters considered it to be a victory for their resistance to the policy. On the contrary, the KCC shouldered an “enormous burden” in proving that the mobile prefix unification policy was legitimate and that it did not infringe upon the rights of petitioners.

Noteworthy thing is new media technology and online culture facilitates legal mobilization among users. The constitutional petition was a collective lawsuit of a type that had previously been rare in the Korean legal environment. The Korean law system is modeled upon European and Japanese civil law, and basically had not adopted the idea of US-style class action lawsuits. The only exception was the Securities-Related Class Action Act introduced to the Korean legal system in 2005. Consumer organizations are ineligible to bring legal claims on behalf of individual consumers. Thus, it has been difficult for individual consumers to claim damages against the government or a company due to the high cost of litigation. However, online communication allowed individual users to solve problems related to filing their lawsuit against the government: encouraging participation, sharing expenses, and saving time.

The lead users in the anti-010 headquarters posted the writings on the necessity of using a constitutional petition. Soon afterwards, 1,677 petitioners who were scattered around the country participated in the constitutional petition. Individual online community users only had to express the will to join and send a small legal fee in support of the petition by means of a mobile-phone payment system. Each participant in the constitutional petition against the government’s mobile prefix unifications policy paid about 10,000 Korean won, which is approximately US \$8. The online community culture and widespread adoption of mobile payments facilitated the rapid mobilization of individual users for a constitutional petition. The mass recruitment of petitioners online reduced the legal fee that individual petitioners had to pay. After the petitions were filed, the lead users at the headquarters shared information about what was going on by posting all of the official documents related with the constitutional petition online. The users informed

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<sup>246</sup> Online community users filed two consecutive constitutional petitions: the case numbers were 2011헌마63 and 2011헌마468. This happened because additional users hoped to participate in the petition, and the two petitions were later integrated into a single piece of litigation.

themselves about the nature of the issues surrounding the mobile prefix unification policy and their constitutional petitions.

The Constitutional Court held a public hearing regarding the petition on May 10, 2012. The public hearing shows that users at the headquarters and the KCC were sharply divided about whether or not the right of petitioners to keep a mobile network identification code (011, 016, 017, 018, and 019) was a basic human rights guaranteed by the Constitution. They also held different viewpoints regarding whether or not the means and ends of a government decision on the mobile number policy was appropriate, and whether or not the decision might restrict basic human rights. Users argued that the government decision not only violated the principle of due process and the principle of the rule of law<sup>247</sup>, they also contended that it infringed upon their constitutional rights. The KCC argued in response that a telecommunication number is not a user's property but rather a national resource and thus "the decision to prohibit users from using 3G with 2G prefixes cannot be an exercise of public power which is applicable to a constitutional petition. Rights that users argue cannot be recognized as constitutional rights" (Yeo, 2012).

Users consider their mobile phone number to be their individual property and the embodiment of one's personality. The remarks of In-Ho Lee, a constitutional law professor who stood up in favor of the rights of users in the hearing, indicates how users perceived their mobile phone numbers. He pointed out that users who filed the petition thought that "pushing them to abandon the mobile numbers they had used for 9 – 28 years is nothing less than forcing them to change their names in the mobile world" (Jwa, 2012). The arguments made by the users is interesting in the sense that the legal nature of mobile phone numbers has not been discussed in the telecommunications policy field in this manner. Just as in the cases of the wireless spectrum and Internet domain names, a great deal of attention has been given by scholars and policy-makers to these three specific issues: (a) whether or not telephone numbers are a national resource, (b) whether or not telephone numbers are to be recognized as private property owned by a firm, and (c) whether it is more cost-efficient to allocate telephone numbers through the marketplace or to allocate telephone numbers through administrative procedures.

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<sup>247</sup> Strictly speaking, it may not be accurate to translate *법률유보의 원칙* (*Gesetzesvorbehalt* in German) to rule of law. *Gesetzesvorbehalt* means decision that can infringe the basic rights should be based on the law, not assigned to the discretion of government.

In Korea, there had already been a juridical decision regarding the legal nature of mobile telephone prefixes. In May 2006, Korea's Supreme Court ruled that "011" as a network identification code is a national resource that the government owns and controls and that it was thus unacceptable for a company to hold the exclusive rights to use a government-owned network identification code as a corporate trademark.<sup>248</sup> This legal judgment of the Supreme Court was about to determine whether or not a mobile identification number could be recognized as being the private property of a carrier. Prior to the filing of the constitutional petition by the headquarters users, there had been little discussion or juridical decision whether or not wireless phone numbers are the individual property of users.

The users' constitutional petition led to a debate concerning the legal nature of mobile phone number. After the users' petition, Korea law and policy scholars suggested two different views: the public good approach vs. the private property approach. The public good approach considers telephone numbers to be a public good owned and controlled by the state. This viewpoint is that individual users cannot claim a possessive right over telephone numbers because the state can take it back or remove it at any time, so mobile number unification is essentially a legitimate policy. The private property approach regards telephone numbers as private property under certain conditions. This approach means that users of mobile phone numbers, such as carriers, have the exclusive rights to use it within certain limits, just as spectrum users have certain exclusive rights to use the spectrum, although the spectrum was allocated on the premise that it is a public good and the state can take it back. This means that it might not be illegal for a carrier to keep using 2G identification codes by making its own decision. The expanded version of the private property approach is that individual users can claim to have rights over telephone numbers.

The legal mobilization of users was significant in the sense that they forced the government to review policy issues that had been neglected in their top-down policy-making practices. This researcher's view, however, is that the property rights approach does not provide the best solution to the policy problem in this case. Given that mobile telephone prefixes such as 011 have functioned as an essential facility<sup>249</sup> that restricted fair competition among carriers in

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<sup>248</sup> The case number is 2005-헌346 (See <http://www.law.go.kr/precInfoPWah.do?precSeq=67995>)

<sup>249</sup> The concept of essential facility originated from US antitrust law. The property rights of the owner of essential facility should be restrained in order to secure fair market competition, particularly in the infrastructural industry,

the Korean wireless service market, it is not desirable to acknowledge that carriers have property rights over mobile telephone prefixes. If individual users' rights over telephone numbers are accepted and the trading of numbers is permitted, administrative costs will increase and the policy reform for a better numbering plan will become more difficult. Of course, certain interests of users can be acknowledged as a result of the long-term use of their numbers although individual users do not have any ownership or other exclusive rights over their phone number. When the interests of individual users are infringed upon without good reasons, legal measures such as loss protection become desirable. More important, given technological feasibility and reduced costs, the government should have allowed users to maintain 2G prefixes for their 3G services instead of requiring the compulsory unification to 010. Top-down policy making practices led to unproductive debates and lawsuits that the government might have avoided.

In addition to the constitutional petition, users at the headquarters took additional legal actions to resist the government's decision. One exemplary action involved the termination of 2G services. The KCC rejected two previous bids from KT<sup>250</sup>, but later approved the KT plan to end the PCS service in its 1.8 GHz bandwidth on November 23, 2011. The approval allowed KT to begin its long-term evolution (LTE) service on the band. KT failed to obtain the 1.8 GHz portion of the spectrum for LTE service during the spectrum auction held in August 2011. SKT won the auction and prepared to launch its LTE service using its 1.8 GHz bandwidth. Given this situation, KT needed to reuse its 1.8 GHz frequency for the new service by terminating its 2G service early. KT thus accelerated the transition of its subscribers to 3G to the extent that the number of its 2G users decreased from 1.1 million in March 2011 to only 150,000 in November 2011.

In response to the KCC decision, 776 users who had gathered in the online community both filed a lawsuit with the Seoul Administrative Court against the KCC in seeking to invalidate the decision, and also asked the court suspend the KCC's approval until it issued a verdict on the matter. Users at the headquarters technically argued that the KCC had violated the Telecommunications Business Act, which requires landline and wireless communications service providers to notify users of service changes 60 days in advance. However, the aim of the administrative lawsuit was to block or delay the termination because it could advance the

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which includes transportation systems, communications networks, and scientific research (See Lang, 1994; Lipsky & Sidak, 1999; OECD, 1996).

<sup>250</sup> KT requested the termination of its 2G service in April and July 2011. The KCC did not approve the requests because KT had still too many 2G users.

timetable for mobile number unification to “010.” The KCC released the temporary number portability policy in 2010, and decided to unify mobile identification codes in a non-compulsory manner. The unification would be completed at the time when all of the carriers terminated their 2G services. If all of the 2G services were shut down, users would have no choice if they wanted to keep their numbers. That is why users at the headquarters opposed KT’s termination of 2G.

While the constitutional petition was still an ongoing project, the administrative lawsuit that users filed against the KCC ended as a failure. The administrative lawsuit users filed against the KCC failed. The prospects were bright for users when the court accepted the users’ request to suspend the KCC’s approval on December 07, 2011. The court’s decision meant that KT could not shut down its 2G service, at least for a while. This was anticipated to deal a blow to the company, because it would leave the company unable to provide LTE service as scheduled, and leave it lagging behind SKT and LGU+. The upper court accepted the appeal of the KCC and KT on December 26, 2011. The Supreme Court rejected the appeals made by the users in the upper court decision on February 01, 2012. After several appeals from both parties, the Seoul High Court rejected a lawsuit filed the headquarters users<sup>251</sup> because “the disadvantage of 2G service termination is not large enough to harm the public interest,” according to a decision made on September 27, 2012 (Lee, 2013).

However, it is obvious that the legal actions of users played a crucial role in arousing tensions among stakeholders involved in the policy-making process. The courts finally rejected administrative lawsuits filed by headquarters users and the constitutional petition remains ongoing without definite results. Nonetheless, the legal actions of users attracted media attention and contributed to raising public awareness regarding of the mobile number unification policy and the termination of 2G services. The interviews conducted as part of this research revealed that government officers in the regulatory agency experienced unaccustomed stress due to the legal actions of users. During interviews conducted by this researcher, government officials who had been involved with the mobile number policy often criticized the “absurd” constitutional petition and administrative lawsuit, and claimed that these actions made their work more

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<sup>251</sup> In addition to the lawsuit filed by the users at the headquarters, there were two separate but similar lawsuits. The Seoul High Court rejected both on January 10 and February 20, 2013, respectively.

complicated and difficult than before.<sup>252</sup> The legal mobilization of users exerted political influence on the telecommunications regulators. Although the regulators expected the arguments of users to be rejected by the court, the government officers were concerned that the media and the public regarded litigation itself as a sign of their incompetence in the face of problems.

Managers who worked for wireless carriers acknowledged that the legal actions of users affected firms' decision-making to a certain extent. For instance, KT ran a task force team that managed the termination of 2G service starting in July 2010. The main task of the organization was to reduce the number of 2G subscribers, to prepare for the transition, prepare the customer care policy, and communicate with the regulatory agency and users. A member of KT's task force team recalled during an interview with this researcher that it was a difficult time to try to communicate with users. He agreed with the argument made by the users about the origin of the problems. He ascribed the rise of user resistance against 2G service termination and their legal actions to a regulatory "wrong decision" that forcefully linked telephone service to numbers: "010" should be used for 3G unconditionally. He thought that KT had exerted a great deal of effort to minimize user backlash during the period when the company terminated their 2G service. The company allowed 2G users to cancel their contracts without penalty, offered subsidies and discounts for 3G phones, and even provided 2G users with compensatory payments for their 2G cancellations. KT did not expect user resistance to evolve into lawsuits. The court accepted the request made by users for the suspension of the KCC's approval of KT's termination of 2G service. The company had to postpone its 2G-termination schedule and delay its LTE launching until later.

### 6.3. The democratic desire of users, the policy inertia of regulator, and corporate interests

The battles over the mobile prefix unification policy described above reflect some interesting and insightful points about users, regulators, and business players. Most importantly, users that involved in the battles over the wireless telephone number policy brought new

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<sup>252</sup> "The person in charge of number policy is almost dying. Explain and explain it again to lawmakers, civic groups, news reporters, and users. It is sometimes killing me to persuade a lot of stakeholders whose interests are totally different and to prepare various compromising solutions. Work has become much harder than before" (Interview with Jun-Hee Lee, a KCC officer who managed the number unification policy).

identities and subjectivities as citizens into being. Users began to identify themselves not as passive consumers who conformed to government policy but rather as active dissident citizens who were free to reject or resist policies that had been created behind closed doors without sufficient public consultation. Users began to redefine their identities and sought out new ways to express their voices. The *modus operandi* of regulators in old days, which had been development-oriented, supplier-centric, and involved top-down communication to the public, faced unexpected resistance rising up from the bottom.

Online community cultures can grow rapidly in new media environments and provide widely-scattered users with an easy opportunity to organize themselves as dissident citizens. First, users who distrust and feel antipathy regarding the government's policy were able to connect with each other online more easily than before. An interview with Seong-Ho Cha, a lead user who was in charge of administering the Seoul metropolitan area at the headquarters, reflects how individual users began participating in the online movement.

“When I heard the news about the compulsory unification of mobile prefixes, I felt *anger* welling up inside of me. I really disliked changing my telephone number that I had used for so long.

Although I wanted to raise my voice about that, I knew it was difficult for me to stand my ground alone against the government. While surfing the web, I found that there were lots of people who had the same feeling as I did.”

Second, users trained themselves through interactions with other stakeholders that revolved around the number policy and by sharing knowledge they had learned from their interactions. It is usually difficult for ordinary users to understand telecommunications policy in detail because there exist many legal and technological jargon terms that must first be understood. However, users who were interviewed for this research have a solid knowledge of the history and problems of the mobile number policy than this researcher initially thought. This was made possible as a result of knowledge-sharing practices in the online community. Lead users acquired relevant information by calling, emailing, and meeting civic groups, the news media, regulators, and mobile carriers. The information that was collected from these policy actors was organized and shared with other users at the headquarters. Every known document regarding the progress of the litigation was immediately uploaded online. Other users online community users could learn what the problems were and what else was going on, and then felt free to express their opinions by posting online comments.



What prompted users at the headquarters to actively resist government policy to the extent of filing a constitutional petition? Some government officers and company managers interviewed for this research denounced the users at the headquarters saying that they only wanted to get monetary compensation for their resistance. Although it is true that some users expected to receive monetary compensation, the interviews conducted with users reveals that they already knew there would be little compensation. There was a desire to tell people about their “sense of justice,” “anger,” and their “critical opinions” about the government policy. An interview with a lead user at the headquarters indicates that users became to develop a democratic desire to stand up against a “bad” supplier-centric and development-oriented government policy.

“See the movement, Occupy Wall Street. It is time for direct democracy. We live in an era where unconditional obedience to government is a thing of the past.”

Lead users at the headquarters who this researcher interviewed from July to September 2012 often linked their resistance to the government policy with anti-neoliberal protests such as Occupy Wall Street<sup>253</sup>. The initial desire of the online community users was not to engage in a legal mobilization but instead share their complaints about the mobile prefix unification policy. This policy did not allow users to use 3G service or smartphone service without first changing their 2G wireless phone numbers. In the process of sharing their complaints, the online deliberation process allowed users to learn about the history of the mobile number policy and inform themselves about policy problems. Users at the headquarters soon began thinking of themselves as dissident citizens, who “should” resist a policy that served only the government’s developmental goals and business interests. These activities of the users first emerged two years before Occupy Wall Street, but they often cited global movements such as Occupy Wall Street. In addition, given that the users’ argument involved a call for a more liberalized, or less regulated, telecommunications policy for the benefit of users, it is paradoxical for them to link their actions to anti-neoliberal movement such as Occupy Wall Street. However, users’ attitudes that equated their particular form of resistance to the global movement, shows that their desire evolved out of complaining about government policy and into calling for more democratic policy-making process in telecommunications. This part of their background helps explain why

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<sup>253</sup> The main issues raised by the OWS movement in 2011 were social and economic inequality, corruption, undue influence of corporations on politics, particularly in the US financial sector.

users in the online community turned to legal mobilization activities such as constitutional petitions, instead of ceasing their activities when the government partially accepted their arguments through the temporary number portability policy issued in 2010.

Government officials had already recognized the policy environment changes produced by the growth of online community culture and civic spirit. An interview with a KCC officer who had been involved in the policy-making process regarding the mobile prefix unification policy acknowledged that user questions and their resistance to the government policy were the result of their new identity as self-empowered citizens and their growing desire for new types of civic engagement in recent Korea.

“It happened because users began to be awakened by their desires. In other words, it can be said that their civic consciousness matured. They had readily complied with government’s policy in the past, but they developed the desire to keep their mobile phone numbers, and asked “why do I have to give up my number because the government is pushing?” Recently, citizens have begun expressing their complaints about the government’s actions and they do that in an organized way both online and offline.”

There was a policy inertia that was the legacy of the decision-making model based on the developmentalist idea that the regulators had accepted for decades. The interviews revealed that the government officers in the KCC usually responded that the first priority of the mobile number policy should be “policy consistency.” The original goal of the mobile number policy in its early days was to make efficient use of telephone number resource and guarantee “fair competition” by preventing number-associated brand marketing. The regulators believed that carrier-specific allocation of mobile prefixes had undermined “desirable” market competition and prevented the efficient and flexible allocation of telephone numbers for new wireless telecommunications service markets such as LTE, MVoIP and MVNO. However, after a decade, policy consistency itself appears to have become a policy goal. The excuse that the regulators made to the courts, in media releases, and in replies to users’ complaints<sup>254</sup> reflects that they often emphasized the consistency of mobile number unification policy over other issues.

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<sup>254</sup> Seong-Ho Cha, a lead user at the headquarters pointed out in an interview that “Whenever we filed a complaint against the KCC, they replied that it was impossible to accept our claim due to policy consistency, after making lame excuses.”

The interviews conducted for this research revealed that government officers in the regulatory agency often expressed nostalgia for good old days that they could take a leading role in making plans, implementing them and coordinating the interests of the stakeholders that existed at that time without encountering major resistance. They perceived that the autonomy of the government and regulators had been undermined as the power of corporate interests expanded after telecommunications liberalization in the late 1990s. They also felt pressured because they had to consider user complaints in the policy-making process after networked users began to emerge in the policy landscape. Government officers had yet to become accustomed to having to consider the interests of this new policy actor.

The atmosphere and the perceptions inside the government and the regulatory agencies resulted in the recent reorganization of telecommunications regulator. Policy experts in government and business continued to see a need for a control tower for efficient policy-making and policy enforcement. They argued that ministry-type governance is better for promoting nation's industrial growth than commission-type governance for the purpose of handling information and communications technology (ICT) policy. The new Korean government created the Ministry on Future, Creativity, and Science (MFCS) as a control tower of ICT policy. Tasks and authority over ICT policies, including telecommunications, were transferred from the KCC, the MKE, the MCST, and the MPAS to the new control tower, the MFCS, in March 2013.

One aspect of the controversy regarding mobile prefix unification is that business players attempted to use online opinion in the battle over telephone numbers, although their attempts were not very successful. When the KCC began a review process regarding temporary number portability in March 2010, KT sought opinions online in support of the company's arguments. The company asked power bloggers<sup>255</sup> to express opinions that government should introduce a number change display service instead of compulsory prefix unification (*Electronic Times*, 2010). SKT, whose stance was negative toward mobile prefix unification, have attempted to create good relationship with users in the headquarters. SKT provided lead users at the headquarters with

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<sup>255</sup> "Power bloggers" mean people who publish their writings on online blogs and have numerous readers or followers of their blogs. In Korea, there are some 'professional' power bloggers who have special interests in IT and telecommunications. One of their characteristics is that they often earn money by attaching advertising banner on their blogs and by giving public speeches to the government and companies. Networked users who were examined in this chapter are ordinary people offline, and differ from power bloggers. For instance, lead users at the headquarters, who this researcher interviewed, were an employee of small-sized company, an animation writer, and a small business owner in the interior construction industry.

otherwise inaccessible data/documents when users made requests. During an interview conducted by this researcher, a manager from SKT said that he had expected “users to oppose mobile number unification and termination of 2G, and their collective actions will finally end in failure.” SKT nevertheless tried to help users at the headquarters because the company considered user resistance to government policy to be “useful anyway” for achieving the company’s goal of delaying the implementation of the mobile number unification policy. Each mobile carrier had a special division for maintaining contact with civic groups. When an issue related to civic organizations emerged, the company attempted to solve problems or improve public opinion by mobilizing or negotiating with civic groups. It appears that wireless carriers applied this practice to online community users during the battles over numbers. Interviews with lead users at the headquarters, as well as company managers, revealed that this practice was expanded to networked users when temporary number portability policy and 2G termination became hot issues in the Korean wireless policy landscape.

An important finding is that users at the headquarters were extremely well acquainted with the conflicting corporate interests that existed between wireless carriers and their treatment of civic groups. During interviews, this researcher recognized that headquarters users had strong anti-corporate sentiments and a deep distrust of government policy. Despite their animosity to corporations, lead users kept in contact with each wireless carrier and leveraged corporate interests in order to strengthen their dissident activities. For instance, lead users obtained data and documents from each wireless carrier that were usually unavailable to the public. Furthermore, lead headquarters users suspected that workers at wireless carriers monitored their online posts. During the administrative litigation and the constitutional petition, users shared what was going on with other members of the community by uploading every document related to their legal actions. They wanted to reduce the amount of time that carriers and the government had available to prepare their response. Users posted lawsuit-related documents from which the case numbers of litigations had been eliminated, and posted documents after the courts had sent the documents to companies and the KCC.

#### 6.4. Conclusion: The closed policy-making system and networked users as citizens

This chapter examined what were the roles of the state, domestic business players, and users during the development and evolution of mobile phone number policy in Korea. This

chapter historicized how mobile phone number policy were determined, and outlined the interactions between policy actors involved in the policy change. This chapter identified some of the relationships between the actors, and the emergence of networked users who functioned as a new policy actor in the telecommunications policy landscape.

*Neoliberal-developmental features of mobile prefix policy and its problems*

Interactions between the state and business complicated the trajectory of the mobile telephone number policy in Korea. First, carrier-specific allocations of mobile identification codes resulted from the rapid introduction of competition in the wireless industry. The Korean government's active acceptance of neoliberal globalization in the 1990s led to the rapid liberalization of the wireless telecommunications industry. The regulatory agency did not have sufficient time to prepare long-term policy plan, and had to accept new licensees' requests for carrier-specific mobile prefixes. The power shift towards business players during privatization and new licensing processes (See Chapter 2) also impacted the mobile telephone number policy-making process. Wireless carriers wanted to obtain and market their own telephone prefixes. Number allocation and spectrum allocation is a prerequisite for new wireless communications services, so it is not surprising that business interests were the driving force behind the creation of a carrier-specific mobile numbering plan.

Second, regulatory intervention in market competition and the reactions of business players dragged out the mobile telephone number policy process and often modified it later on. The role of the neoliberal-developmental state as a facilitator varies with the political and economic environments. The government gave top priority to introducing market competition in wireless communications in the late 1990s. However, the incumbent, SKT, soon came to dominate the wireless service market during the early 2000s. Carrier-specific allocations of mobile prefixes were thought to be one reason for the monopolistic market structure of the wireless service market. The telecommunications regulatory agency wanted to promote "fair competition" by implementing wireless number policy reform. The compulsory unification of mobile prefixes was designed to promote number policy reform, and the regulator wanted to push reforms forward. However, policy reform based on interventionist principles were dragged on and modified due to conflicting interests among business players in the 2000s.

Policy debates regarding mobile phone numbers went on within a closed circle where government goals and business interests predominated, and such practices created some policy

problems. First, the reform of carrier-specific allocation was protracted for over a decade, and the social costs of telephone number change increased. Many wireless service users had their social relations based on old numbers with diverse prefixes. Second, the telecommunication regulators tied compulsory mobile prefix unification to network/service transition from 2G to 3G. This linkage led to many users becoming dissatisfied with the mobile prefix unification policy. Users who wanted to subscribe to 3G mobile services had to first abandon their old 2G telephone numbers, and they were required to use new numbers with 010 prefixes. In conclusion, the specific Korean neoliberal-developmental characteristics of telecommunications policy led to inefficient telephone number allocations and widespread user discontent.

*Networked users as citizens: online democracy and legal mobilization*

This chapter showed that the voices of dissident users in cyberspace began to emerge in the wireless policy landscape where government goals and business interests had once predominated. In a manner similar to the WIPI situation examined in Chapter 5, networked users informed and organized themselves online, and went on to exert influence over government policy. Networked users emerged as a policy actor who affected the wireless telephone number policy-making process. In this case, the online and offline activities of users influenced the KCC to temporarily retreat from implementing compulsory mobile prefix unification in 2011. This chapter does not argue that the voices of users were the single factor that tilted the decision in favor of the policy change. This chapter also indicates that cultural, technological, and institutional changes facilitated the emergence of the networked users movement. The growth of online community culture provided dissident users with a cultural platform for their activities. The introduction of smartphones partly motivated users to resist the government policy. The reorganization of the regulatory agency into a commission-type of governance allowed user voices to be reflected more readily in the policy-making process. Furthermore, networked users interacted with other institutional/non-institutional policy actors and helped to shape the policy network that surrounded the mobile telephone number policy.

More important, this chapter found that networked users evolved into collective citizens who challenged the *status quo* by using legal mobilization to call for policy change. Many scholars have researched the democratic implications of online space by linking the theories of democracy with online participation. There is no consensus definition of digital democracy or e-democracy. The research on digital democracy makes use of a variety of different positions

(Dahlberg, 2011). Behind the academic enthusiasm for digital democracy, there is the belief that digital media technology can be used to expand political participation on the part of citizens. It appears to be true that digital media facilitates citizens' participation in political issues, although the pessimistic view of the role of new media in democracy also exists. However, it is unclear whether online participation influences actual political decisions and through which 'channels' make such influences possible.

Political participation has been regarded as a necessary condition for the existence of democracy, whether it is characterized as serving the maximization of interest (Dahl, 1961), creating a sense of commonality (Barber, 1984) or as a means towards the end of the self-realization of humanity (Arendt, 1958). There are different forms of political participation. Legal mobilization is a crucial form of citizen participation "by which the citizenry uses public authority on its own behalf" (Zemans, 1983, p. 690). Mobilizing the law can produce a long-lasting, substantial effect on political decisions, including public policy (Salzman, et al., 2011). For this reason, legal mobilization can serve as a social movement tactic so that the minority's desire for a social change can be made possible through "proper channels" (Burstein, 1991).

Networked users as examined in this chapter show that there is a possibility of linking online participation and legal mobilization for democratic social change. Users in the online community first gathered together online to voice and share their complaints regarding the mobile prefix unification policy. They wanted to use 3G service or smartphone service without being required to change their 2G mobile phone numbers. However, in the process of sharing their complaints online, users began to think of themselves as dissident citizens and decided to exert political influence by means of legal mobilization. In this case, users acting as collective citizens filed a constitutional petition and administrative litigation against the government and carriers. In this case, the online community culture and technology facilitated the legal mobilization of users. Online communication allowed individual users to solve problems that could be anticipated when taking legal action against the government. Online communication encouraged large-scale participation in legal action, sharing expenses, and saved time.

In the WIPI case, networked users faced a limitation as a policy actor. Their dissident voices had to be transferred and filtered through channels of institutional policy actors such as the national assembly or the mainstream media. Networked users in the number policy case also made use of official actors as channels for actualizing their voices. However, the networked

users examined in this chapter went further and made active use of the Korean legal system to call for a policy change. Their collective legal actions were unprecedented in the Korean telecommunications policy landscape and thus had not been anticipated by either regulators or by business players. The legal mobilization of users challenged and undermined the legitimacy of the mobile telephone number policy created by government goals and business interests.

This research argues that previously passive individual users of telecommunications service became ‘networked users’ who informed and organized themselves online and evolved into collective citizens who mobilized the legal authorities to resist government telecom policy. More particularly, headquarters users examined in this chapter exhibited more autonomous aspects that were free from the power of the state and corporations in comparison with the users in the WIPI case. The emergence of networked users can have a positive effect on the democratic policy-making process that goes on in the Korean telecommunications policy landscape.



## CHAPTER 7. Conclusions

This dissertation examined historical changes in Korea's wireless telecommunications policies from 1993 to 2013. This research focused on changing interactions and power relations between the state, transnational actors, domestic businesses, and even individual users in telecommunications who organized themselves online. This research draws on historical methods and interviews with users and policymakers, and suggests that scholars should pay more attention to the active role the state played in the neoliberal transformation of Korean wireless telecommunications. This research also proposes a new role for networked users in democratizing the telecommunications policy regime, which has long been dominated by government developmental goals and corporate interests. This chapter provides a summary of the major findings, discusses the contributions and implications of this research, and suggests how this research can be extended beyond the limitations of this study.

### 7.1. Major findings of this dissertation: The interactions between the state, transnational forces, businesses and users

This dissertation found that the interactions between transnational pressures, the developmental goals of the state, and domestic business interests shaped the neoliberal-developmental features of Korean wireless telecommunications policies on a continuous basis.

First, transnational forces, including the US government, international institutions such as the WTO, OECD, and IMF, US-based transnational high-tech firms, and free trade agreements, continuously functioned as external pressures that stimulated change in Korean wireless telecommunications policy. The pressures initially focused on the liberalization of the Korean wireless telecommunications industry through privatization and deregulation. After the liberalization of the Korean wireless telecommunications market, these external pressures were brought to bear to produce the expansion of foreign ownership and the reduction of government intervention in technical standards and spectrum allocations. These pressures triggered the change away from the traditional wireless telecommunications policy regime, which had been based on a developmental state model, to a neoliberal economic model. Korea's export-dependent economic structure and information-based developmental strategy led to tensions between embracing these external pressures and resisting them.

Second, the locus of power in the wireless telecommunications gradually shifted away from the government and migrated to domestic corporations after wireless telecommunications liberalization in the late 1990s. Korean conglomerates, which had accumulated capital and bolstered their economic power during the state-business alliance, continuously sought to liberate themselves from state control. Many of the policy cases<sup>256</sup> examined in this dissertation reflect that business interests, together with government's developmental goals, were a crucial factor in shaping and reconfiguring the policy network in wireless telecommunications. In some policy cases, domestic corporations maintained a close-knit state-business linkage when their corporate interests were in accordance with government goals. When government policies failed to meet the business players' needs due to changes in technology and the business environment in the global mobile industry, domestic corporations often challenged the legitimacy of government's developmental wireless telecom policies. In some policy cases, domestic corporations and transnational corporations allied with each other to exert influence in favor of government policy change.

Third, the role of the state was not passive. It was instead active in creating hybrid styles of wireless telecommunications policy in which both neoliberal and developmental features were embedded together with each other. The Korean state reacted strategically against external pressures. Korea actively accepted neoliberal globalization, but did not abandon its developmental leadership in the wireless telecommunications industry. The government intensified the power of the telecommunications regulatory agency as the control tower for designing and implementing industrial promotion policies. The regulatory agency focused more on industrial promotions rather than on regulations. The government strategically led large-scale research and development projects in the wireless telecom sector, including CDMA (2G), IMT-2000 (3G), WiBro (3.5G/4G), and WIPI (mobile internet platform standard), with the goals of attaining "technological independence" and supporting the infiltration of domestic corporations into the global market.

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<sup>256</sup> The policy cases examined in this dissertation are: (a) the privatization of KMT, (b) the licensing process for cellular and PCS services, (c) the research and development of CDMA, (d) the privatization of KT, (e) the research and development of IMT-2000, (f) the research and development of WiBro, (g) the approval of mergers and acquisitions, (h) the introduction of spectrum auctions, (i) the introduction of MVNO, (j) the licensing of a fourth wireless carrier, (k) the research and development of WIPI, and (l) changes in mobile telephone number policy.

This dissertation also found that neoliberal-developmental policy-making practices led to policy problems and resistance from individual users. Two policy cases examined in this dissertation reflect that individual users gathered in online communities later emerged as a collective policy actor who complicated the existing policy network and brought about changes in wireless telecommunications policy. Individual users even evolved into citizens who were self-informed and self-organized in cyberspace and challenged the legitimacy of government policy by means of a legal mobilization.

First, the neoliberal-developmental features of Korea's wireless telecom policies usually considered individual users in telecommunications to be passive consumers or markets. Government developmental goals and corporate interests dominated the policy-making process for many years and the changes were driven by interactions between the government and corporations. This neoliberal-developmental practice contributed to the rapid growth of the Korean wireless telecom market, and led to the global successes of Korean-based transnational IT conglomerates such as Samsung and LG. However, under these closed policy-making system, the voices of individual users were often neglected.

Second, online community culture in Korea allowed scattered users to create a space to discuss and protest wireless telecommunications policies. Users who were dissatisfied with the status quo organized themselves using new media such as online forums. These networked users later emerged as a collective policy actor that partially influenced the abolition of the nation's mobile Internet standard in the WIPI case. A new type of active role for users, which went beyond the idea of passive individual users of telecommunications, was also identified in the mobile telephone number policy. Networked users in the mobile telephone number policy case evolved into a collective citizenry who called for democratic change in the policy-making process. Networked users relied on new media technologies and online community culture. In the mobile telephone number policy case, they actively mobilized legal authorities as a channel for realizing their desired policy change. Networked users filed a constitutional petition and administrative lawsuits against government policy. Individual users gathered together online in an unprecedented manner and called for changes in the closed telecom policy-making system which had previously been dominated by government developmental goals and business interests.

## 7.2. Contributions and implications of the dissertation

This dissertation offers several contributions to knowledge in the field of international political economy, the political economy of communications, and user studies in telecommunications policy.

### 7.2.1. *Rethinking the role of the state and moving beyond the dichotomy*

First, this research contributes to knowledge in the field of international political economy by revealing that the dichotomous simplification of the role of the state in neoliberal globalization is rather unproductive. Most globalization theories appear to neglect the role of the state due to an emphasis on transnational forces during the relentless globalization process. Of course, not all globalization studies overlook the role of the state. Revisionist works on neoliberal globalization suggest that the role of the state did not decrease when facing a neoliberal hegemonic order. For instance, Linda Weiss argued in her book *The Myth of the Powerless State* (1998) that the capacities of states for domestic transformative strategies influenced the successes of national economies under global capitalism, and the strength of external economic pressures was largely determined domestically. Empirical works written from the revisionist viewpoint indicated that globalization *per se* undermines neither the capacities of nation-states to handle foreign economic relations nor their catalytic function with respect to domestic economic developments (Guillen, 2001, p. 254; Weiss, 2003). Nonetheless, many globalization theorists appear to forecast the dissolution of national boundaries, industries, and economies, after which everything will converge into transnational organizations beyond the reach of nation-state power (Cable, 1995; Castells, 1996; Friedman, 1999; 2005; Fukuyama, 1992; Robinson, 2003; 2004; Sklair, 2000; 2002).

This prediction is often referred as the neoliberal convergence thesis. It has achieved general acceptance in the field of international political economy studies, one of whose core research themes has been the delineation of the mechanism of economic and social development of East Asian countries. The proponents of the convergence thesis have argued that the role of the state as a driver of social and economic changes was diminished during neoliberal globalization in the Asian region. Their common thread is that the developmental state, whose primary feature was strong state intervention in markets, ceased strategic market intervention and passively converged upon the neoliberal model of capitalism (Amyx, 2004; Haggard, 2000; Jayasuriya, 2005; Pang, 2000; Pirie, 2005a; 2005b). The neoliberal convergence thesis has often

been used to analyze Korea's political economy and industrial policy. The perspective of these scholars is that Korea provides irrefutable evidence of a powerless state that abandoned its developmental strategy and relinquished the hands-on market approach after neoliberal globalization (Kim, 1999; Minns, 2001; Pirie, 2008).

In contrast, "the return of the state" thesis has been proposed in reaction to the predominant viewpoint. Another viewpoint posits that there has been a greater degree of continuity with the developmental past than there have been substantial changes, despite neoliberal reforms in East Asia (Hundt, 2005; Lee and Han, 2006; Thurbon and Wiess, 2006; Vogel, 2006; Walter, 2006). The view often emphasizes "the return of the state" by highlighting the fact that the Korean state regained the power to reform the private sector and coordinate the interests of business players after the 1997 Asian financial crisis (Hundt, 2005). The large fiscal stimulus package that emerged in response to the 2008 global economic crisis is also considered to constitute evidence of a "selective limited retreat from neoliberalism" (Pirie, 2012).

However, the analysis presented in this dissertation demonstrates that neither the neoliberal convergence thesis nor the return of the state thesis is innately superior or appropriate for explaining the historical development of Korean wireless telecommunications policies and the Korean economy. This dissertation finds that the neoliberalization of the Korean wireless telecommunications has been continuously modified since the 1990s, and the role of the state never decreased. The Korean state never abandoned strategic intervention in the wireless telecom industry for the purpose of promoting information-based economic development, and also took a leading role in initiating the neoliberal transformation of the wireless telecommunications industry. This research argues that the paradoxical coexistence of neoliberal and developmental features in Korean wireless telecommunications policies cannot be fully explained using existing dichotomous viewpoints.

Using a fixed definition of the state often leads to a discrepancy between the definition and the historical and contingent variations in a state's existence and power. The developmental state is a distinctive brand of capitalism often found in East Asia. It should not be interpreted as being an unchangeable concept that represents strong state intervention in the market for the purpose of pursuing economic growth. It is incorrect to argue that only one strategy and tactic for capital accumulation is possible in many capitalist states. Jessop's notion of "strategic selectivity" means that the state exhibits not a single accumulation strategy but rather multiple

flexible accumulation strategies in specific spatial-temporal contexts (Jessop, 1990). Old forms of development in East Asia were based on economic protectionism, authoritarian control over markets, and state-monopoly capitalism. However, developmental strategies were repeatedly reconfigured and adjusted to mesh with changing political economic environments.

Developmental states facing neoliberal globalization actively accepted the rules of free trade and facilitated market competition, but retained their strong interventionist legacies both in creating favorable conditions for domestic corporations and developing technologies/infrastructures for catching up with other advanced economies.

Thus, this dissertation used the concept of the neoliberal-developmental state to move beyond this unproductive dichotomy. This dissertation does not wish to suggest a new fixed concept of the state, but rather calls for the need to understand the role of the state in a more flexible and balanced manner beyond the simple dichotomy. Liow (2012) coined the term to explain the “neoliberal political rationality” behind Singapore’s labor policies and institutions. Liow attempted to theorize a hybridity created by neoliberalism and the Asian developmental tradition based on the Foucauldian understanding of neoliberal governmentality. This dissertation adopts the term to explain the hybridity<sup>257</sup> in Korean wireless telecommunications policy wherein neoliberal and developmental features are embedded within each other. However, this research also extends the term and suggests another notion of the neoliberal-developmental state by focusing on the nature of hybridity from the approach of political economy. Neoliberalism as a theory is based on the imperatives of “small government” and the abolishment of state intervention. But the primary agent or apparatus in the process of actual neoliberalization is the state. Neoliberalism in practice is so flexible that developmental legacies are not excluded. The developmental state in practice is strategic, as old forms of development and state intervention are incessantly reconfigured.

### *7.2.2. Understanding Korean wireless telecom policy from the political economic approach*

Second, this dissertation contributes to knowledge of the political economy of communications by offering a detailed picture of historical changes in Korean wireless

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<sup>257</sup> The term, “hybridity,” originates from biology and is widely used in the theoretical discussions of race, post-colonialism, and cultural globalization. For instance, scholars such as Pieterse (2000; 2003) see hybridity as a cultural effect of globalization. However, hybridity must be understood as a rhetorical notion. In this dissertation, hybridity means the complicated embeddedness that has existed between Korean developmentalism and global capitalism.

telecommunications policy. This research largely focuses on how the Korean wireless telecom policy has been transformed, and which interactions between political and economic actors impacted the change in a historical and holistic manner. The political economic approach used in communication studies differ from the approach used by other economists in its *holistic* understanding of relations between economic practice and political organization, its focus on analysis of *historical* transformation, and its emphasis on social justice and *democratic* change (Wasko et al., 2011, p. 2). The critical approach provides valuable insights by situating the changes in global telecommunications industry and policy within a larger social context. Critical scholars reveal that the neoliberal change in telecommunications has been a global project that sought to establish conditions favorable to capital accumulation. The role of state has involved creating and preserving an institutional framework that meets the needs of business (Schiller, 2000; 2007, Hills, 1986; 2007).

Critical scholars have expended academic effort to illuminate the structural changes within the Korean communications industry and policy. Jin (2011) analyzed the structural transformation of the Korean communications industry (1987-2002), including broadcasting, newspapers, film and telecommunications by focusing on media ownership and the role played by transnational capital in the changes. His research revealed that the neoliberal changes in the communications industry in Korea were the outcome of both internal factors such as government policy and the growing power of domestic conglomerates, together with external factors such as the economic crisis and transnational forces. Lee (2012) considered the KII project (1995-2005) to be the systematic response of government and business interests to the new digital mode of capitalism. His analysis considers the Korean state to be a strong, undemocratic, active player in the telecommunication policy-making process which took a leading role in designing and implementing the project as “an agent of local and global capital” (p. 11). These studies provide valuable insights for understanding the structural changes of the Korean communications industry and policy.

However, the political economic perspective has not yet been used to understand the historical changes in Korean wireless telecommunications policy. This dissertation delineated the neoliberal transformation of Korean wireless telecommunications from 1993 to 2013 by focusing on the analysis of policy changes. This dissertation examined twelve major wireless telecommunications policies in Korea related to privatization, licensing, deregulation, and

national research and developments projects. Examining the policy changes led to this dissertation's finding that the neoliberal changes in wireless telecommunications in Korea were the result of incessant interactions among transnational pressures, the Korean state, and domestic businesses.

Korean wireless telecommunications was no exception to neoliberal globalization. Public assets in wireless telecommunications were privatized into domestic/transnational capitals through privatization. The locus of power in the wireless industry shifted from the government to domestic capital as a result of deregulation. The role of the state was crucial in the establishment of favorable conditions for capital accumulation. At the same time, the Korean state never abandoned its strategic role in initiating large-scale technological development projects in wireless telecommunications. This dissertation contributes to new knowledge that facilitates the understanding of the dynamic and flexible changes in the political economy surrounding Korean wireless telecommunications.

### *7.2.3. Rethinking the role of individual telecom users as policy actor or citizens*

Third, this dissertation contributes to knowledge in the area of user studies in telecommunications policy research by analyzing users as policy actors and collective citizens. Users in telecommunications have seldom been regarded as policy actors or citizens in traditional telecommunications policy research. The role of institutional policy actors<sup>258</sup> such as legislatures, government agencies, and courts has been a core research subject in policy studies (Cahn, 2012). In addition, the role of non-institutional policy actors such as businesses, mainstream media, and consumer organizations has also been widely researched. However, the role of individual citizens in the policy process garnered little scholarly attention until after they were mobilized into a large-scale social movement and became an influential interest group (Birkland, 2011, p. 133).

This bias of the policy research field is amplified in telecommunications policy research due to the particular logic of telecommunications. Audiences in broadcasting have often been framed as a collective citizenry from the social and cultural perspectives, but

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<sup>258</sup> Policy actors are broadly defined in this research. Before the rise of behaviorism in the 1950s and neoinstitutionalism in the 1960s in policy studies, the concept of policy actors were narrowly defined as institutions that had formal powers to decide how to solve perceived policy problems. In this research, policy actors are defined from neoinstitutional approach. Thus, policy actors refer to both institutional/non-institutional, individuals and groups that seek to influence the creation and implementation of public policy.



telecommunications users have been framed as individual consumers from the economic perspective (Livingstone & Lunt, 2012). Treating telecommunications users as mere consumers or as a passive market has been more prevalent in Korea than in other countries due to Korea's long-term emphasis on the information-based growth model. The telecommunications industry has often been described as the "growth engine" of the Korean economy, and economic efficiency has been a top priority in policy debates and policy research on telecommunications. Given this situation, the role of individual users in telecommunications policy has seldom been researched from a normative or democratic perspective.

This dissertation suggests that networked users can be understood as a new form of policy actor that can influence the telecommunications-policy making process. In the WIPI and wireless telephone number policy cases, users who were dissatisfied with telecommunications policies emerged as policy actors who actively interacted with other policy actors and attempted to influence policy changes. Users organized and informed themselves in online communities using new media. New media tools do not necessarily create the desire to organize, but instead provide an alternative platform for the achievement of human desires (Shirky, 2008). New media reduces the cost of organizing, participating, and protesting (Earl & Kimport, 2011). Contrary to the pessimistic view of the quality of online deliberations (See Davis, 1999; Shapiro, 1999; Sunstein, 2001), the online user deliberations that were examined in this research exhibited informed and less polarized forms of discussion. Networked users linked their arguments in online deliberations with offline activities. They actively attempted to use existing policy actors, including the National Assembly and mainstream media, as channels for actualizing their voices.

More important, this dissertation suggests that networked users be understood as collective citizens who can mobilize the legal authorities to change policies. There are sober and cautious views regarding the role of new media, e.g., using the Internet to enhance democracy (Coleman & Blumler, 2009; Hindman, 2009; Moscow, 2004), but it appears that digital media can be used as an instrument for facilitating citizens' online participation. However, it is unclear whether or not online participation influences actual political decisions and which channels make such political influence possible. Legal mobilization is a crucial form of citizen's political participation "by which the citizenry uses public authority on its own behalf" (Zemans, 1983, p. 690). Mobilizing the law can have a long-lasting, substantial effect on political decisions, including public policy (Salzman, et al., 2011). For this reason, legal mobilization can function

as a social movement tactic such that the minority's desire for social change can be realized through "proper channels" (Burstein, 1991).

Networked users who were examined in the mobile telephone number policy exhibit a form of effective online democracy in which online participation and legal mobilization for democratic social change are linked with each other. When users mobilized the legal authorities, they went beyond their unstable initial status as limited policy actors. In the WIPI case, networked users faced a limitation in operating as a policy actor. Their dissident voices had to be transferred and filtered through the channels of other policy actors such as the National Assembly and the mainstream media. Business players often regarded the dissident voices of users as mere resources for pushing the government and changing the WIPI policy to favor corporate interests. However, users demonstrated their own independent agency as well. In the wireless telephone number policy case, users exhibited autonomy free from the power of government and corporations. This was not the case for users in the WIPI debate.

The different findings in these two cases have an implication in relation to Castells' normative and optimistic theory regarding social movements online. Castells (2009) argues that "mass-self communication" using new media technology can bring about "counter-power," which is autonomous and free from intervention by the state or the mainstream media. In his view, counter-power is the capacity of social actors who do not believe they are well represented by the existing system to challenge existing power relations. In his recent book *Networks of Outrage and Hope*, Castells (2012) theorizes that the trigger for recent social movements is anger. He also theorizes that the repressor is fear, and that mobilization ensues when fear is overcome by individuals sharing their outrage online. In the WIPI case, users' self-identification as global consumers and their antipathy to the government's nationalistic policies led them to resist the WIPI policy. However, their movements were not autonomous from business players due to the strategic capacity of corporations to treat online opinions and the commercialization of online communities as useful resources. On the contrary, in the mobile telephone number policy case, users exhibited certain aspects of a counter-power. Users shared their anger at being excluded from the closed policy online and then evolved into a group of dissident citizens who mobilized legal actions against the government and corporations. This dissertation found that closer examinations of specific cases are necessary in order to generalize about Castells' concept of "counter-power" in new media environments.

#### 7.2.4. *Applying user interviews to research on telecommunications policy*

Finally, this dissertation makes a methodological contribution to telecommunications policy research by adding user interviews to a historical examination of policy changes. Research on telecommunications policy has been mainly approached using the legal and economic perspective. Rowland (1986) criticized the dominance of legal and economic perspectives over telecommunications policy research in the US, and called for the full range of humanistic and interpretive social science to be brought to bear on telecommunications policy. Nearly three decades afterwards, it appears that legal experts, economists, and engineers continue to dominate telecom policy debates and research in the U.S. telecom policy landscape. This predominance of the legal and economic perspective has often led telecom policy research to excessive reliance on methods such as formalistic legal analysis, technological analysis, market research, and economic simulations.

Some research has been conducted to address telecommunications policy “from below” through user interviews. Mueller & Schement (1996) adopted user interviews when investigating the actual situation of universal landline service in Camden, New Jersey. Their research found that low telephone penetration existed in inner cities, and was associated with the young, the transient, and ethnic minorities, contrary to universal service’s popular perception as an issue that involved rural areas and the elderly. Sandvig (2011) interviewed with users of the license-exempt spectrum in local situations, and found that the obligation of engineers to their profession was stronger than government regulations. The research suggested that policy-makers and scholars pay more attention to “the law as it is lived” in order to make better telecommunications policy in the future. Nevertheless, mainstream telecommunications policy research continues to be dominated by the top-down approach in the US.

Research on Korean telecommunications policy has also been dominated by the legal and economic approach. For instance, 483 journal articles related to Korean telecommunications policy have been published in *Telecommunications Policy* to date since 1980. None of these articles adopted user interviews to address Korean telecommunications policy issues. In a similar manner to research in the US case, most research on Korean telecommunications policy typically employed methods such as descriptions of legal/technological/market changes or economic evaluations of a single policy. This predominance of the legal and economic approach in

telecommunications policy studies has resulted in little examination of individual users in related policy issues.

Users of telecommunications service are also actual users of telecommunications policy, so user interviews can be a useful tool for researching the social effects of specific telecommunications policies on the daily lives of ordinary people and determining which telecommunications policy would be the best option from the user viewpoint. This research adopted user interviews as one method of understanding the new role of culture and the voices of networked users in specific telecommunications policy-making processes.

The user interviews used in this dissertation were useful for uncovering qualitative knowledge about policy issues that could not be researched using existing forms of legal or economic analysis. For instance, networked users in the mobile telephone number policy case argued that telephone numbers were their private property. Existing policy debates in telecommunications usually focused on whether telephone numbers were national resources or the private property of corporations. This researcher's view is that what was necessary for policy-makers in the case was not to evaluate whether or not the argument was legally correct. What was actually important was the motivation and backgrounds behind user resistance. The top-down approach cannot address what users thought of telephone numbers, which functioned as an embodiment of rules and norms of telecommunications in the everyday lives of users. Making use of interviews with users to investigate user resistance would be useful for understanding the democratic desires of ordinary users of telecommunications policy. It would also be useful for making more open and efficient – not economically efficient, but rather politically efficient – telecommunications policy.

### 7.3. Limitations of this dissertation and a call for further research

This dissertation has certain limitations that originate from its organization/method, unit of analysis, and scope. This section discusses the limitations of this dissertation, and connects limitations with a call for future studies. In addition, this researcher suggests further studies on other important policy debates and recent changes in the Korean mobile broadband industry.

First, this dissertation has two primary research foci. One emphasizes the role of the state. The other emphasizes the role of networked users. This dissertation is the first to combine and synthesize both viewpoints. This researcher's synthesis requires further studies regarding the role

of users based on additional user research. Explaining the relation between structural determination and human agency is a central academic concern broadly in the social sciences, particularly in the political economic approach. Policy studies in telecommunications often focus on structure rather than human agency under the assumption that policy is the outcome of interactions between institutional powers. This dissertation added users' roles to the analysis of historical changes in Korean wireless telecom policy so as not to overlook the role of human agency. Nonetheless, the dialectic tension between agency and structure was not fully and explicitly described in the policy analysis in this dissertation. This researcher considers the limitations of organization and methods to be one reason.

This study mainly relied on a historical account of structural change in wireless telecommunications policy (mainly in Chapter 2, Chapter 3, and Chapter 4) and attempted to examine and analyze the role of users through lead user interviews (in Chapter 5 and Chapter 6). This method can be assessed as a novel attempt to understand the evolving role of individual users in telecommunications. However, this method had a limited capability to provide a rich explanation regarding who the networked users were, and how their desires for change interacted with the existing policy-making structure. Thus, further research should focus on the culture and identity of networked users and the patterns of their roles in the policy-making process in a more detailed manner. Additional interview research on networked users should be conducted in the telecommunications policy landscape in order to provide more nuanced interpretations.

Second, the simplification of political entities in this dissertation requires further research in order to understand the multi-layered interactions between policy actors in a more detailed manner. This study was mainly based on institutional analysis in delineating major political and economic events surrounding Korean wireless telecommunications policies (particularly in Chapter 2, Chapter 3, and Chapter 4). This institutional approach often led this researcher to present the state as a monolithic entity that single-mindedly sought to accomplish its neoliberal-developmental goals. Furthermore, it often equated the state with the government and the telecommunications regulatory agencies, including the MOC, the MIC, and the KCC. Government is an administrative bureaucracy that controls the state apparatus during a particular period. A political entity in a democratic society usually consists of divided groups of politicians, affiliated interest groups and various government agencies. In certain cases in Chapter 5 and Chapter 6, this dissertation attempted to provide a rough analysis of the policy network in which

various political actors played their roles in support of their interests. Nonetheless, this study often adopted simplified concepts when describing political entities related to the wireless telecommunications policy. Thus, further research can supplement the shortcomings of this study by conducting research based on policy network analysis or an advocacy coalition framework.<sup>259</sup> Given these approaches, further research can provide additional detailed insights for understanding patterns of linkages between various actors, including politicians, regulatory agencies, relevant interest groups, as well as their rational/irrational political motives and shared beliefs.

Third, the limited scope of this dissertation requires additional studies that would be based on a comparative approach. This dissertation has limited usefulness for generalizing findings regarding the role of the state and networked users in the Korean wireless telecommunications policy field. This research is restricted to one country and does not provide a comparative perspective for other countries. The comparative approach has been a primary mode of scientific knowledge production in social science. This dissertation's stress on the active role of the nation-state and the evolving political role of users in telecommunications cannot be generalized until after similar cases, at least in other Asian countries, have been studied. China, Japan, Taiwan, and Singapore have shared political experiences comparable to those of Korea, particularly, in their state-led developments of their IT infrastructures, industries, and policies. For this reason, further research on these countries' historical development of their wireless telecommunications policies and the changing role of users is necessary. Without this research, it is impossible to determine whether or not the findings in this dissertation are particular only to the Korean context.

Fourth, the growth of mobile broadband communications and social media in Korea calls for additional studies of the mode in which networked users engage with policy in evolving new media environments. This research mainly focused on the voice of users in online forums that influenced the policy-making process in Korean wireless telecommunications. In contemporary Korea, the high market penetration rate of smartphones and the rapid growth of social media

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<sup>259</sup> Policy networks are defined as "sets of formal institutional and informal linkages between governmental and other actors structured around shared if endlessly negotiated beliefs and interests in public policy making and implementation" (Rhodes, 2006, p. 423). In policy network analysis, the advocacy coalition framework regards policy change as an outcome of belief system that policy actors shared in their policy decisions (Sabatier & Jenkins-Smith, 1993; Sabatier & Weible, 2007).

usage facilitate political participation among citizens. The Korean smartphone penetration rate in Q1 2013 was 73.0% (Statista, 2013). Korea has been the home of one of the largest blogging communities in the world, second only to China. The smartphone environment facilitated the rapid diffusion of microblogging services such as Twitter and me2DAY<sup>260</sup> and social networking services such as Facebook in Korea. Political actors such as Korea's Democratic Party experimented with citizen political participation in the party's pre-election for 2012 Korean parliamentary election via smartphone. These changes provide tools that citizens can use to call for additional democratic policy-making processes. Further research is necessary to identify whether or not dissident voices become self-organized in changing media environments and in which directions the roles of networked user evolved under the influence of smartphones and social media.

Lastly, further research can help clarify the concepts of the neoliberal-developmental state and networked users by applying these concepts to other Korean telecommunications policy cases. The compulsory use of ActiveX for e-payments and resistance from users may possibly constitute one example. In the late 1990s, Korea developed its own encryption technology standard, SEED.<sup>261</sup> This homegrown technology began to require users to use an ActiveX control in Internet Explorer (IE) for online banking services and e-commerce, because no major Secure Socket Layer (SSL) libraries or web browsers supported the SEED algorithm. After the mandate, developers optimized banking and e-commerce websites to work only with IE. Consequently, users with operating systems such as Apple's OS X and Linux, which do not support IE, were unable to use for online banking and e-commerce purposes in Korea. Thus, there has been user resistance against the mandates that has been expressed using online petitions and legal mobilization since the late 2000s.

OpenWeb (<http://opennet.or.kr/>) has been at the center of a user movement pushing back against the obligatory use of digital certification. Users filed various class action lawsuits against the Ministry of Public Administration and Security (MPAS), the Korean Financial

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<sup>260</sup> Me2Day is a microblogging service that is operated by Naver, the largest search engine in Korea. As of May 2013, the number of Me2Day users reached 12 million.

<sup>261</sup> SEED is a block cipher, which is an important component of cryptographic protocols. The Korea Information Security Agency (KISA), a government institute under the control of the MIC, developed the technology in 1998. The government adopted it as a national *de jure* standard for e-payments.

Telecommunications & Clearings Institute (KTCl), and Korean commercial banks.<sup>262</sup> The Supreme Court denied users' claims that the mandates were illegal in 2009. However, there are other ongoing lawsuits related to the ActiveX mandate. In addition, the Supreme Court's legal interpretation of the mandate included the recommendation that commercial banks had the right to decide which technologies they would use for e-payments. This decision led to the recent launch of OpenBanking service in major commercial banks, which did not require digital certification based on ActiveX.

Another recent controversy regarding mobile network neutrality also provides an example. The rapid diffusion of smartphones led to a messaging and VoIP application, KakaoTalk<sup>263</sup>, gaining a huge popularity. 38 million users in a country of almost 50 million people registered and used the application, as of July 2012. KakaoTalk launched its messaging service in March 2010, and launched a VoIP service in Korea in June 2012. Wireless carriers were concerned about increasing mobile Internet traffic and reduced revenues from their wireless voice services, and decided to degrade service for the lowest two tiers of their data plans in 2012. This measure produced dropped VoIP calls for customers who used KakaoTalk. This response of wireless carriers to KakaoTalk led to a controversy about net neutrality in mobile broadband. The controversy led the KCC to establish a new guideline for net neutrality in July 2012. During the net neutrality debate, users gathered online (i.e., Net Neutrality Forum, <http://nnforum.kr/>) and emerged as an influential policy actor that moved the focus of discussions beyond the closed structure that had been limited to carriers and content providers. Although the KCC released guidelines for net neutrality, online opinions still call for allowing extensive MVoIP in all data plans.

This researcher believes that the emergence of networked users is not a short-lived phenomenon, and may possibly becoming an ongoing movement that can further democratize the Korean telecommunications policy-making process. The neoliberal-developmental characteristics of Korean telecom policy-making practices have historically been constructed

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<sup>262</sup> The MPAS established the policy requiring the mandatory use of digital certification for access to e-government services. The KTCl is a 'non-profit' organization that controls the operating digital certification system for e-government services and e-payments services. However, the KTCl garnered approximately \$0.1 billion in 2012, and the government controls the KTCl by the Financial Services Commission, the Financial Supervisory Service, and the MPAS.

<sup>263</sup> Mobile messaging apps in Asia are challenging Facebook and other social networks. Line in Japan and KakaoTalk in Korea ranked higher than Facebook in terms of active users (WeAreSocial, 2013).



through interactions between government goals and corporate interests, and created supplier-centric and Korean-specific rules and norms in the use of telecommunications (i.e., the mandate of WIPI, mobile prefix unification, and ActiveX). The voices of individual users, who inform and organize themselves with the help of new media technology, will be crucial in the continuing democratization of Korean telecommunications policy. This movement is likely to increase in strength through alliances with traditional civic groups. Additional research is thus needed to identify similarities, differences, and the prospective sustainability of the influence of networked users on various Korean telecommunications policies in the future.<sup>264</sup>

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<sup>264</sup> Of course, follow-up research is also needed to examine the final results of the constitutional petition that networked users in the mobile telephone number policy case filed against the government.

## TABLES AND FIGURES

Table 1 is presented at the end of Chapter 1.

Table 2. Primary telecommunications legislations and the functions of the MIC

Legislation	Major Provisions (Under the responsibility of the MIC)
Telecommunications Basic Act	<ul style="list-style-type: none"> <li>- Basic guiding principles for telecommunications.</li> <li>- Ministerial authority regarding promotion of telecommunications technology and technical standards for telecommunication facilities.</li> <li>- Management of telecommunication networks.</li> <li>- Organization and operation of the Korea Communication Commission as a sub-committee of the MIC.</li> </ul>
Telecommunications Business Act	<ul style="list-style-type: none"> <li>- Licensing criteria and reporting procedures for telecommunication service providers.</li> <li>- Telecommunication service providers' competition safeguards.</li> <li>- Rights of telecommunication service users.</li> <li>- Construction and maintenance of telecommunication facilities.</li> </ul>
Telecommunications Construction Business Act	<ul style="list-style-type: none"> <li>- Basic guiding principles for telecommunications construction principles.</li> <li>- Telecommunications construction business classification, licensing criteria and scope.</li> <li>- Establishment of the Association of Telecommunications contractors.</li> </ul>
Cable TV Broadcasting Management Act	<ul style="list-style-type: none"> <li>- Licensing of CATV operators.</li> <li>- Technology standards of CATV facilities.</li> </ul>
Basic Act on Informatization Promotion	<ul style="list-style-type: none"> <li>- Basic guiding principles for building KII and creating an information society.</li> <li>- Basic and Action Plan for Informatization Promotion.</li> <li>- Operation of the Informatization Promotion Fund.</li> </ul>
Radio Waves Act	<ul style="list-style-type: none"> <li>- Efficient utilization and control of radio waves.</li> <li>- Establishment of Basic Plan for Promotion of Radio Waves.</li> </ul>

\* Source: Ministry of Information and Communication (OECD, 2000, p. 13).

Table 3. Reform measures in the corporate sector after the 1997 Korean economic crisis

Classification	Main Contents
Fair trade regulation	<ol style="list-style-type: none"> <li>1. Strengthening punishment for ‘unfair’ internal transactions</li> <li>2. Revival of regulation of the amount of investments in related firms limited to 25% of net assets of a business group</li> <li>3. Abolition of debt guarantees between the affiliates of chaebol</li> </ol>
Accounting standards	<ol style="list-style-type: none"> <li>1. Introduction of consolidated financial statements</li> <li>2. Obligation to establish election committee for assignments of outsider auditors for listed companies and affiliates of chaebol</li> </ol>
Financial market discipline	<ol style="list-style-type: none"> <li>1. Regulations in banks loans: <ul style="list-style-type: none"> <li>- Debt-equity ratio 200% became a <i>de facto</i> limit when providing loans</li> <li>- Prohibition of new loans with guarantees made by affiliated firms</li> <li>- Establish a system for constant assessment of corporate credit risks, including introduction of forward-looking criteria (FLC)</li> </ul> </li> <li>2. Liberalization of M&amp;A market: <ul style="list-style-type: none"> <li>- Permits hostile takeovers</li> <li>- Abolition of regulations on shareholding by foreigners</li> </ul> </li> </ol>
Internal governance	<ol style="list-style-type: none"> <li>1. Outsider director system: <ul style="list-style-type: none"> <li>- One quarter of board of directors should be outside directors</li> </ul> </li> <li>2. Responsibilities of major shareholders <ul style="list-style-type: none"> <li>- Registration of controlling shareholder as the representative directors of leading affiliates</li> <li>- Removal of the ‘Chairman’s Office’</li> </ul> </li> <li>3. Rights of minority shareholders <ul style="list-style-type: none"> <li>- Loosening conditions for derivative suits, inspection of accounting books, and requests for the dismissal of directors and auditors by shareholders</li> <li>- Introduction of a cumulative voting system when appointing directors</li> </ul> </li> <li>4. Rights of institutional investors: <ul style="list-style-type: none"> <li>- Allowing voting rights for shares in funds managed by investment trust companies and bank trust accounts</li> </ul> </li> </ol>

\* Source: Ministry of Finance and Economy (Shin & Chang, 2003, p. 95; SERI, 2000, p. 169)

Table 4. Progress in the privatization of Korea Telecom, 1987-2003

Date	Events
1987	<ul style="list-style-type: none"> <li>- Public Enterprises Privatization Promotion Committee established</li> <li>- Decided on <i>gradual privatization</i> of Korea Telecom to boost efficiency of management.</li> </ul>
October 1993 – December 1996	<ul style="list-style-type: none"> <li>- Seven sell-offs of KT stocks under the Kim Young-Sam government. (28.79%, public offerings, domestic investors)</li> </ul>
December 1998	<ul style="list-style-type: none"> <li>- KT listed on Korean Stock Exchange Market to facilitate stock selling in domestic stock market.</li> </ul>
May 1999	<ul style="list-style-type: none"> <li>- Issued the American Depositary Receipts (ADR) in the United States and sold 14.4% of KT stock.</li> </ul>
September 1999	<ul style="list-style-type: none"> <li>- Upgraded the aggregate foreign ownership limitation of KT from 20% to 33%</li> </ul>
June 2000	<ul style="list-style-type: none"> <li>- Decision to fully privatize KT</li> </ul>
September 2000	<ul style="list-style-type: none"> <li>- Revision of the Telecommunications Business Act to increase foreign ownership ceiling from 33% to 49% of KT</li> </ul>
February 2001	<ul style="list-style-type: none"> <li>- Sell-off of KT stocks (1.07%, domestic stock market)</li> </ul>
June 2001	<ul style="list-style-type: none"> <li>- Issued the ADR in the United States and sold 17.8% of KT stocks.</li> </ul>
December 2001	<ul style="list-style-type: none"> <li>- KT bought 11.8% of stocks back from the government (treasury stock)</li> <li>- Issued foreign convertible bonds (CB, 8.6%)</li> <li>- Issued bonds with warrants and sold to Microsoft (BW, 3.2%)</li> </ul>
May 2002	<ul style="list-style-type: none"> <li>- Domestic sell-off of KT stock</li> <li>- Completed full privatization of KT.</li> <li>- SK group bought 9.64% of KT stock.</li> </ul>
December 2002	<ul style="list-style-type: none"> <li>- Exchange 9.27% of SK Telecom shares owned by KT and 9.64% of KT shares owned by SK Telecom.</li> </ul>
January 2003	<ul style="list-style-type: none"> <li>- Brandes Investments bought 6.07% of KT DR and became the largest shareholder of KT.</li> </ul>

\* Source: Author research

Table 5. Conflicting interests between stakeholders regarding IMT-2000 standards

	Cdma2000 (synchronous)	W-CDMA (asynchronous)
Technological difference	<ul style="list-style-type: none"> <li>- Synchronous mode</li> <li>- Based on 2G CDMA technology</li> <li>- Standardized by 3<sup>rd</sup> Generation Partnership Project 2 (3GPP2)</li> <li>- Market share of CDMA: 10-15% worldwide</li> <li>- CDMA mainly used in the US and Korea</li> </ul>	<ul style="list-style-type: none"> <li>- Asynchronous mode</li> <li>- Uses the same core network as the 2G GSM networks deployed worldwide</li> <li>- Developed by NTT Docomo</li> <li>- Standardized by 3GPP</li> <li>- Market share of GSM: 80-85% worldwide</li> <li>- GSM is used all over the world except Korea and Japan</li> </ul>
Stakeholders	<ul style="list-style-type: none"> <li>- CDMA-based handset manufacturers (Samsung, Hyundai)</li> <li>- MIC and its affiliates such as ETRI</li> </ul>	<ul style="list-style-type: none"> <li>- Wireless carriers (SKT, KT, and LGT)</li> <li>- Handset manufacturer (LG)</li> </ul>
Reasons to support	<ul style="list-style-type: none"> <li>- The need for multiple standards</li> <li>- Maintain the competitiveness of CDMA that Korea accumulated</li> <li>- The possibility of CDMA standards exports to South East Asian countries</li> <li>- Faster commercialization than W-CDMA</li> </ul>	<ul style="list-style-type: none"> <li>- Broader alliance with global carriers than cdma2000</li> <li>- Larger number of wireless subscribers</li> <li>- Expected increase in revenues from global roaming</li> <li>- More business opportunities than cdma2000</li> </ul>

\* Source: Author research

Table 6. Foreign direct investments in Korea, 2001-2012

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
FDI (\$ billion)	11.3	9.1	6.5	12.8	11.6	11.2	10.5	11.7	11.5	13.1	13.7	16.3

Source: Ministry of Trade, Industry and Energy (<http://www.motie.go.kr>)

Table 7. Chronology of major processes for the Korea-US Free Trade Agreement

Date	Process and Events
Aug 2003	FTA roadmap confirmed by the Office of the Minister for Trade (Korea), planned to start negotiation with 50 countries for FTA by 2008
Nov 2004	Korea-US Ministers of Trade meeting agreed to examine Korea-US FTA
Feb-Apr 2005	Three rounds of Korea-US FTA preliminary examination meetings
Feb 2006	Official announcement of negotiations on Korea-US FTA
June 2006	First round of negotiations (Washington, DC)
Dec 2006	Fifth round of negotiations (Montana) – Korea suspended the negotiation on medicine and automobiles on Dec. 6.
Jan 2007	Sixth round of negotiations (Seoul) – Disagreements on automobiles, medicine, agriculture, services, investments, and textiles
Feb 2007	Seventh round of negotiations (Washington, DC) – Disagreements on customs relief and safeguards for certain agricultural products (especially beef with bones) and import quotas
Mar 2007	Eighth round of negotiations (Seoul) – Textiles, automobiles, agriculture remain for further negotiations. Agreement reached on financial and service sectors.
Apr 2007	Korea-US FTA reached – resolution on beef (beef tariff relief within 15 years, beef with bones still to be negotiated). Gaeseong products subject to further negotiations.
Nov 2008	Bush in statement to President Lee Myung Bak, says ratification of Korea-US agreement stalled because of a “backlash against free trade” as opposed to a “negative feelings towards the South Koreans.”
Dec 2008	President-elect Barack Obama states that he would not support the Korea-US FTA “as it is” because it is “badly flawed.” USA imports about 70,000 Korean vehicles annually, while Korea imports around 5,000 US cars annually.

Source: Ministry of Foreign Affairs and Trade (Rhyu, 2011, p. 83).

Table 8. The deregulation of media ownership in the 2009 revision of the Broadcasting Act

Owner \ Object	Daily News/ News Agency		Big Corporation *		Foreigner		A single stakeholder	
	Previous	Revised	Previous	Revised	Previous	Revised	Previous	Revised
Terrestrial ** Broadcasting	Prohibited	10%	Prohibited	10%	Prohibited		30%	40%
General Programming Provider ***		30%		30%	Prohibited	20%		
Specialized News Programming Provider		49%		49%		10%		
General/Specialized News Program Provider in IPTV		20%		-				
Programming Provider	No limit				49%		No limit	
CATV SO	33%	49%	No limit		49%			
Satellite			49%	No limit	33%	49%		
IPTV	49%		No limit		49%			

Source: Author research. Reconstructed from the previous Act and the revised Broadcasting Act

\* "Big corporation" means a company whose assets exceed 10 trillion Korean won (When converted, that amounts to about \$10 billion). The former Enforcement Decree of the Broadcasting Act defined "corporation" as a company whose assets exceed 3 trillion won.

\*\* The Broadcasting Act had an exception that the State, a local government, and the Foundation for Broadcast Culture could own a terrestrial broadcaster: Article 8-2

\*\*\* "General Programming" means multi-genre channels including news, entertainment and sports (*Jong-hap-pyeon-sung* channel in Korean).

Table 9. Three fixed-mobile mergers and acquisitions under the conservative government

	SKT-Hanaro Telecom	KT-KTF (KT)	LGT-LG Dacom- LG Powercomm (LGU+)
Feature	Acquisition	Merger	Merger
Approval date	February 20, 2008	March 19, 2009	December 14, 2009
Main arguments from industries	<ul style="list-style-type: none"> <li>- Concern about mobile market dominance's spread into fixed market</li> <li>- Problems with exclusive use of 800MHz</li> <li>- Separation between network-operating organization and marketing organization</li> </ul>	<ul style="list-style-type: none"> <li>- Concern about fixed market dominance's spread into mobile market</li> <li>- Problems with owning large scale of subscribers' network and other essential facilities</li> <li>- Separation between network-operation unit and service unit</li> </ul>	<ul style="list-style-type: none"> <li>- Concern about vertical integration between manufacturer (LG Electronics) and service provider</li> <li>- Problems with whether LG's benefits from asymmetrical regulations continue</li> <li>- Problems in KEPCO's 7.5% ownership of integrated entity</li> </ul>
Approval Conditions	<ul style="list-style-type: none"> <li>- Submission of plan on building broadband infrastructure in rural areas.</li> <li>- Non-discrimination in wholesale market, bundled services, and wireless Internet</li> <li>* Shared use of 800MHz not included in conditions.</li> </ul>	<ul style="list-style-type: none"> <li>- Submission of plan for efficient use of essential facilities</li> <li>- Submission of plan for optimizing process of landline/VoIP number portability</li> <li>- Non-discrimination in wireless Internet market</li> </ul>	<ul style="list-style-type: none"> <li>- Submission of plan for building BcN in rural areas</li> <li>- Non-discrimination in wireless Internet market</li> <li>* The government propels the sale of 7.5% share according to public enterprise privatization plan.</li> </ul>
Burden of conditions	Medium	Weak (almost nothing)	Weak
Company size after M&A (Won, Dec. 2008)	<ul style="list-style-type: none"> <li>- Revenues: 13.5 trillion</li> <li>- Market share: 33.7%</li> <li>- Subscriber base (millions)</li> <li>. Wireless: 23.03</li> <li>. Fixed telephony: 1.94</li> <li>. Broadband: 3.54</li> <li>. VoIP: 0.1</li> </ul>	<ul style="list-style-type: none"> <li>- Revenues: 18.9 trillion</li> <li>- Market share: 47.1%</li> <li>- Subscriber base (millions)</li> <li>. Wireless: 14.37</li> <li>. Fixed telephony: 19.87</li> <li>. Broadband: 6.71</li> <li>. VoIP: 0.33</li> </ul>	<ul style="list-style-type: none"> <li>- Revenues: 7.72 trillion</li> <li>- Market share: 19.2%</li> <li>- Subscriber base (millions)</li> <li>. Wireless: 8.21</li> <li>. Fixed telephony: 0.33</li> <li>. Broadband: 2.21</li> <li>. VoIP: 1.20</li> </ul>

Source: Author research



Table 10. Status of spectrum allocation among Korean wireless carriers

	SKT	KT	LGU+	Use and remarks	Auctions in Aug 2011 (Unit: won)
800~900MHz	30MHz (800MHz)	20MHz (900MHz)	20MHz (800MHz)	2G (SKT) 4G (KT, LGU+)	KT 10MHz (800MHz) 261 billion
1.8GHz	-	20MHz	20MHz	2G (KT) 3G (LGU+) Better band for 4G LTE	SKT 20MHz 995 billion
2.1GHz	60MHz	40MHz	-	3G (SKT, KT) Internationally common band for 3G	LGU+ 20MHz 445.5 billion
2.3GHz	30MHz	30MHz	-	WiBro	-
Total	120MHz	110MHz	40MHz	-	50MHz

Source: Author research

Table 11. Brief chronology of the licensing of the fourth mobile carrier

Round	Date	Results	Conditions and Reasons
First Round	Jun. 2010	KMI applied for a license.	In order to receive a license, an applicant should obtain over 70 average assessment score and get over 60 in each item: (a) feasibility of business plan and adequacy of facilities, (b) technical ability, (c) financial stability, and (d) appropriateness of user protection plan. * Item (d) was first added in the fourth round.
	Oct. 2010	Disqualified (65.5)	
Second Round	Nov. 2010	KMI applied for a license.	
	Feb. 2011	Disqualified (66.5)	
Third Round	Aug. 2011	KMI applied for a license.	
	Nov. 2011	IST applied for a license.	
	Dec. 2011	Disqualified (KMI: 65.8, IST: 63.9)	
Fourth Round	Oct. 2012	KMI applied for a license.	Most common reason for disqualification was that the KCC gave low scores in financial stability and business plan's feasibility.
	Dec. 2012	IST applied for a license.	
	Feb. 2013	Disqualified (KMI: 64.2, IST: 63.6)	

Source: Author research

Table 12. Major R&amp;D and standardization projects in the Korean wireless telecom industry

Project	CDMA	IMT-2000	WiBro	WIPI
Period	1991-1996	1999-2002	2002-2006	2001-2009
Government	Roh, Tae-Woo Kim, Young-Sam	Kim, Dae-Joong	Roh, Moo-Hyun	Roh, Moo-Hyun Lee, Myung-Bak
Leading Agency	MOC/MIC	MIC	MIC	MIC/KCC
Main	Develop CDMA and make it into the single standard for wireless service	Adopt CDMA and W-CDMA as the dual standard for 3G	Develop and standardize a wireless broadband technology	Develop and standardize a wireless Internet platform
Associated measure (License)	License 2 <sup>nd</sup> cellular and 3 PCS providers	License 3 IMT-2000 providers	License 2 WiBro service providers	-
Major Participants	Samsung, LG, ETRI, Qualcomm, KMT (SKT), KT, Hyundai	SKT, KTF, LGT, Samsung, LG, ETRI	ETRI, KT, SKT, Samsung, LG	KWISF, ETRI, KTF, SKT, LGT, Samsung, LG
Government leadership in the project	Medium	Strong	Strong	Initially strong but weakened

\* Source: Author research

Table 13. Wireless Internet Platforms before the development of WIPI

Carriers	SKT		LGT	KTF	
Platform	SK-VM	GVM	JavaStation	MAP	BREW
Developer	XCE	Sinji Soft	Aromasoft/ Velxsoft	Mobile Top	Qualcomm
Language	Java	C/C++	Java	C/C++	C/C++
Environment	Script Download	Script Download	Script Download	Binary Download	Binary Download
Features	Sun MIDP	Mobile C	Kitty Hawk/ MIDP	ANSI-C	-

\* Source: Author research, information extracted from corporate documents

Table 14. Conflicting interests of players in the Korean wireless telecom industry

Players		Strategies and Positions
Service operators	SKT	<ul style="list-style-type: none"> <li>. Support WIPI</li> <li>. Establish self-developed extended platform (T-PAK)</li> <li>. Pursue operator-centric platform strategy regardless of device type</li> </ul>
	KTF	<ul style="list-style-type: none"> <li>. Break down SKT-dominated market structure</li> <li>. Disengage from WIPI regulation</li> <li>. Pursue competitiveness through alliances with foreign platforms and device providers</li> <li>. Highlight customer choice rights (non-WIPI phone)</li> </ul>
	LGT	<ul style="list-style-type: none"> <li>. Support WIPI</li> <li>. Share T-PAK to reduce costs</li> </ul>
Device makers	Samsung	<ul style="list-style-type: none"> <li>. Support WIPI (Oppose non-WIPI phone production)</li> <li>. Oppose the installation of T-PAK</li> <li>. Check against operator's platform leadership</li> </ul>
	LG and others	<ul style="list-style-type: none"> <li>. Agree to produce non-WIPI phone</li> <li>* Only Motorola Korea agreed to install T-PAK</li> </ul>
Software developers		<ul style="list-style-type: none"> <li>. Concerns about WIPI's retreat</li> <li>. Concerns about difficulties of overseas expansion</li> <li>. Subordinated to wireless carrier's supply chain</li> </ul>

\* Source: Author research

Table 15. The structure of telephone numbers, landlines and wireless in Korea.

Classification		Digit	Number structure	Remarks	
Land-line	Local	Area code	2-3	02, 03X, 04X, 05X, 06X	Sixteen areas
		Subscriber code	7-8	NYY(Y)-YYYY (exchange code-subscriber number)	Seoul area: 7~8 digits Other areas: 7 digits
Wireless		2G	10	011-2YY-YYYY~011-8YY-YYYY 016-2YY-YYYY~016-8YY-YYYY 017-2YY-YYYY~017-8YY-YYYY 018-2YY-YYYY~018-8YY-YYYY 019-2YY-YYYY~019-8YY-YYYY	-
			11	011-9YYY-YYYY 016-9YYY-YYYY 017-9YYY-YYYY	After M&A between service providers
		3G	11	010-NYYY-YYYY	-

\* N: 2~9, X: 1~9, Y: 0~9.

\*\* Source: extracted and reconstructed from KCC document (KCC, 2010a).

Table 16. Increasing numbers of wireless subscribers in Korea, 1997-2002

		1997	1998	1999	2000	2001	2002
Total		6,828	13,983	23,443	26,816	29,046	32,342
Cellular Service	SKT	4,571 (66.9%)	5,966 (42.7%)	10,110 (43.1%)	10,935 (40.8%)	11,867 (40.9%)	17,220 (53.2%)
	SMT (Merged with SKT in 2002)	1,125 (16.5%)	2,136 (15.3%)	3,238 (13.8%)	3,518 (13.1%)	3,312 (11.4%)	0
PCS Service	KTF (Merged with KT in 2009)	350 (5.1%)	2,353 (16.8%)	4,267 (18.2%)	5,285 (19.7%)	9,591 (33.0%)	10,333 (31.9%)
	LGT (Merged into LGU+ in 2010)	366 (5.4%)	2,116 (15.1%)	3,086 (13.2%)	3,948 (14.7%)	4,276 (14.7%)	4,790 (14.8%)
	HMC (Merged with KTF in 2001)	416 (6.1%)	1,411 (10.1%)	2,741 (11.7%)	3,131 (11.7%)	0	0

\* 1,000 persons

\* Source: [http://www.index.go.kr/egams/stts/jsp/potal/stts/PO\\_STTS\\_idxMain.jsp?idx\\_cd=2755](http://www.index.go.kr/egams/stts/jsp/potal/stts/PO_STTS_idxMain.jsp?idx_cd=2755)

Table 17. Korea's telephone number system and assignments of prefixes.

	0	1	2	3	4	5	6	7	8	9
00Y	-	International Call (KT)	International Call (LGU+)	Facility-based Reseller	-	International Call (SK Broadband)	International Call (SK Telink)	Facility-based Reseller	International Call (Onse)	-
01Y	IMT-2000	Cellular (SKT)	Wireless Paging (Nationwide)	Vessel, TRS, Mobile data	Value-added	Wireless Paging (Local)	PCS (KT)	Cellular (SKT)	PCS (KT)	PCS (LGU+)
02	Seoul (City)									
03Y	UMS	Gyeonggi (Province)	Incheon (City)	Gangwon (Province)	-	-	-	-	-	-
04Y	-	Chungnam (Province)	Daejeon (City)	Chungbuk (Province)	-	-	-	-	-	-
05Y	Individual Number	Busan (City)	Ulsan (City)	Daegu (City)	Gyeongbuk (Province)	Gyeongnam (Province)	-	-	-	-
06Y	Telephone Information	Jeonnam (Province)	Gwangju (Province)	Jeonbuk (Province)	Jeju (Province)	-	-	-	-	-
07Y	Voice over Internet Protocol	-	-	-	-	-	-	-	-	-
08Y	Collect Call	Long distance (KT)	Long distance (Dacom)	Long distance (Onse)	Long distance (SK Broadband)	Facility-based Reseller	Long distance (SK Telink)	-	-	-
09Y	-	-	-	-	-	-	-	-	-	-

\* Source: Extracted and reconstructed from the KCC document (KCC, 2010a)

Table 18. Primary policy decisions for mobile identification numbers, 2002-2010

Time	Policy decisions
February 02	<p>The MIC decided to allocate “010” for 3G service:</p> <ul style="list-style-type: none"> <li>a. 2G prefixes – “011”, “016”, “017”, “018”, “019” – to be withdrawn.</li> <li>b. Mobile identification number will be integrated into “010” within five years after the launch of 3G service.</li> <li>c. MNP will be implemented within 6 months after at least two providers launch 3G services. MNP is allowed only between 3G services.</li> </ul>
January 03	<p>The MIC decided to hasten prefix unification and expand MNP into 2G:</p> <ul style="list-style-type: none"> <li>a. Mobile phone numbers with “010” will be given when a customer activates new 2G service or replaces existing phone numbers starting 1/1/2004.</li> <li>b. MNP will be applied to 2G service and asymmetrically adopted for each carrier with time difference of 6 months from 1/1/2004 (SKT → KTF → LGT)</li> </ul>
December 03	<p>The MIC developed the transition plan and decided upon the condition of unification to “010”:</p> <ul style="list-style-type: none"> <li>a. Mapping rules for transiting existing phone numbers are determined and mapped numbers shall be reserved for future use after transition.</li> <li>b. “010” unification will be mandatory when the transition rate to “010” reaches 80%.</li> </ul>
December 04	<p>The MIC developed a plan for promoting “010” mobile number unification:</p> <ul style="list-style-type: none"> <li>a. Detailed action plan for complete unification will be determined by working with outside experts when the transition rate to “010” reaches 80%.</li> <li>b. The action plan will be implemented during the 5th year after the launch of 3G.</li> </ul>
April 06	<p>The MIC decided to apply MNP only to “010” users.</p> <ul style="list-style-type: none"> <li>a. Users who do not use “010” code (010-NYYYY-YYYY) cannot switch providers while keeping their phone numbers.</li> </ul>
October 07	<p>The MIC allocated “010” for LGT’s Rev.A<sup>265</sup> service and mandated that LGT should comply with MNP policy:</p> <ul style="list-style-type: none"> <li>a. LGT should give “010” number to its new subscribers of Rev.A and should transit to “010” when it accepts applicants for MNP from other 2G services.</li> </ul>
September 10	<p>The KCC modified the original plan for mobile number unification:</p> <ul style="list-style-type: none"> <li>a. There will be no mandatory transition to “010” and the unification policy will end when all wireless operators terminate existing 2G service.</li> <li>b. “01X” users can use 3G service without transiting to “010” for 3 years (Temporary exception on MNP).</li> <li>c. “01X” will be displayed on a receiver’s phone even though a caller changes his or her number to “010” (“01X” calling number display service)</li> </ul>

\* Source: extracted and reconstructed from various government documents.

<sup>265</sup> LGT returned its 3G license to the government without launching the service based on cdma2000 1xEV-DV (synchronous 3G standard). LGT instead launched a quasi-3G service based on CDMA-2000 1x EV-DO Revision A in September 2007.

Table 19. 2G subscribers and transition rates to “010” in Korea

Classification		SKT	KTF	LGT	Total
December 2008	01X*	8,289	3,158	2,617	14,064
	010 transition rate	64.0%	78.0%	68.1%	69.2%
December 2009	01X	6,620	1,437	1,956	10,013
	010 transition rate	72.7%	90.4%	77.4%	79.1%
January 2010	01X	6,529	1,342	1,906	9,777
	010 transition rate	73.3%	91.1%	78.1%	79.7%
February 2010	01X	6,446	1,249	1,861	9,556
	010 transition rate	73.8%	91.8%	78.7%	80.3%
March 2010	01X	6,348	1,161	1,818	9,327
	010 transition rate	74.4%	92.4%	79.3%	81.0%
April 2010	01X	6,265	1,092	1,782	9,139
	010 transition rate	74.9%	92.9%	79.8%	81.4%
May 2010	01X	6,160	1,013	1,746	8,918
	010 transition rate	75.4%	93.5%	80.3%	82.0%
June 2010	01X	6,055	946	1,716	8,718
	010 transition rate	75.9%	93.9%	80.6%	82.4%
July 2010	01X	5,896	872	1,685	8,452
	010 transition rate	76.6%	94.4%	81.1%	83.0%
August 2010	01X	5,735	805	1,652	8,193
	010 transition rate	77.4%	94.9%	81.6%	83.6%

\* Number of 01X users (unit: thousand persons)

\*\* Source: A report to the Committee on Culture, Sports, Tourism, Broadcasting and Communications at the National Assembly, KCC, 2010.

Table 20. A simple comparison of two regulatory agencies: the MIC and the KCC

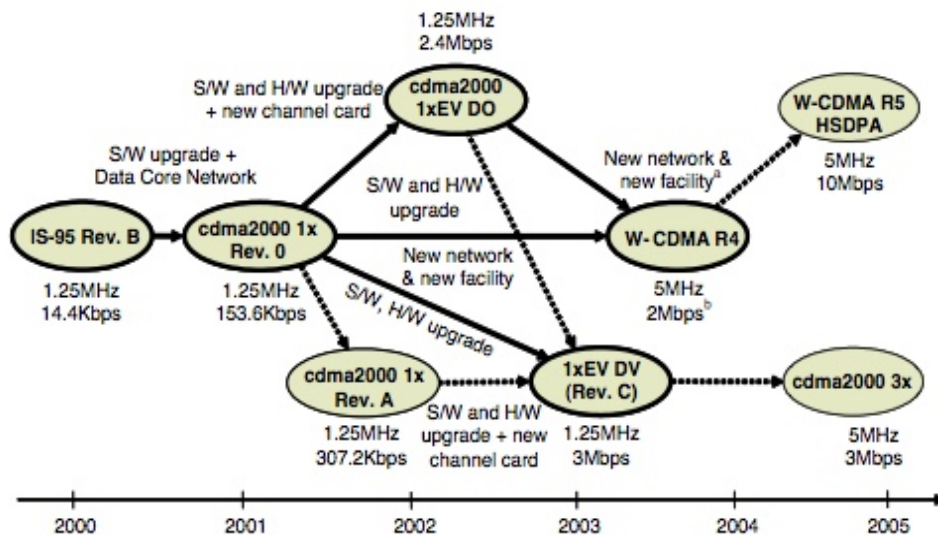
	The MIC	The KCC
Period	Dec 23, 1994 - Feb 28, 2008	Feb 29, 2008 - Present <sup>266</sup>
Organization Type	Ministry	Commission
Rights and responsibility	One minister	1 Chairman, 1 Vice Chairman, and 3 Standing Commissioners
Appointment	. Appointed by the president	. Directly appointed by the president (chairman and 1 commissioner) . Recommended by the ruling party and appointed by the president (1 commissioner) . Recommended by the opposition party and appointed by the president (2 commissioner) * Elected by mutual vote among commissioners (vice chairman)
Tenure	Not guaranteed	3 years guaranteed by law
Policy field	. Telecommunication regulation . Information industry promotion	. Telecommunication and broadcasting regulation . Limited information industry promotion

\* Source: Author research

<sup>266</sup> Strictly speaking, the KCC was abolished on March 23 2013. Since 2009, there has been criticism that the abolition of the MIC led to the absence of a control tower for the IT industry policy in Korea. The core functions of R&D and ICT policy in the field of telecommunications and broadcasting moved to a new control tower known as the Ministry of Science, ICT and Future Planning.



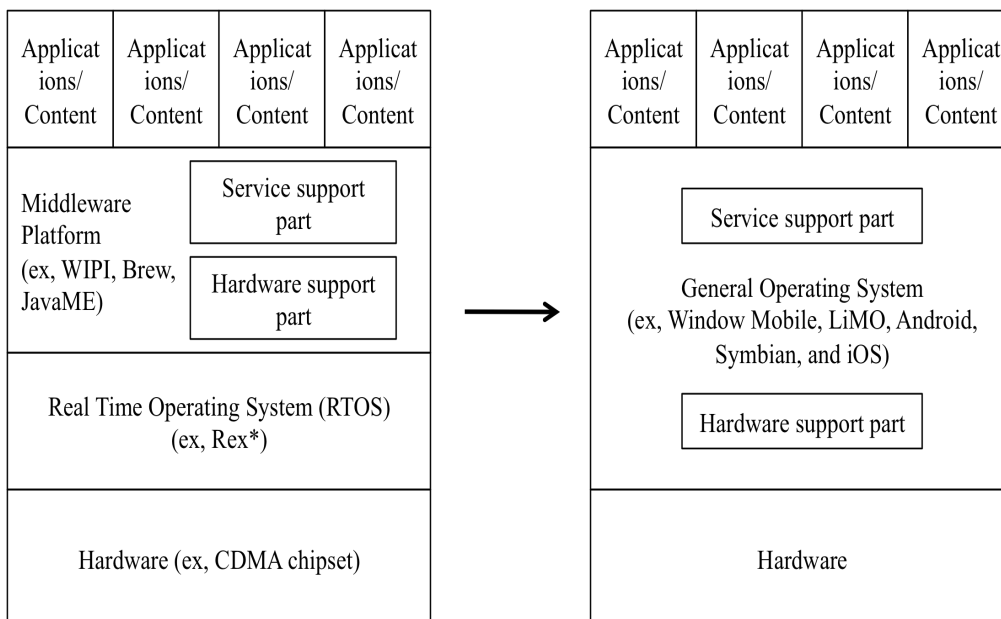
Figure 1. The Korean mobile network evolutionary paths during the early 2000s



<sup>a</sup> This indicates that new networks and new facilities are required when evolving from cdma2000 1xEV DO to W-CDMA.  
<sup>b</sup> This indicates that the FA bandwidth of W-CDMA is 5MHz and the corresponding data rate is 2Mbps.

\* Source: (Park & Chang, 2004, p. 179)

Figure 2. Software architecture changes from middleware-centric to general OS-centric



\* Source: Author research. This diagram simplifies the concept of software architecture. Rex means real-time executive operating system developed by Qualcomm. General OS often includes the functions of OS, middleware, and even application.

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