The impact of the privatization of a state-owned telecommunications carrier on universal service in Korea

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ABSTRACT

Since telecommunications reforms began around world in the 1980s, many scholars have attempted to uncover its effects on the telecommunications sector. Nevertheless, research focusing largely on the impact of privatization on universal service has been relatively less frequent than other research on telecommunications reform such as the effect of competition on efficiency, investment, and universal service, and the impact of privatization on efficiency. From this perspective, this study attempted to explain the impact of the privatization of a state-owned telecommunications enterprise on universal service in Korea. This work may contribute to providing policy-makers and scholars in telecommunications with some useful policy suggestions by concretely illustrating how the privatization of Korea Telecom has influenced universal service policy formulation and the universal service system in Korea.

Key words: Privatization, Universal Service, Internet Service, Telecommunications Policy

한국통신 민영화가 보편적 서비스제도에 미친 영향

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요 약

1980년대 이후 전 세계적으로 확산된 탈규제정책이 통신 분야에 미친 영향을 규명하기 위한 많은 노력이 기울여져 왔음에도 불구하고 국가소유 통신사업자의 민영화가 보편적 서비스에 미친 영향에 대한 연구는 상대적으로 소홀했다. 이 같은 관점에서 본 논문은 연계기적 고찰을 통해 국가복합 기간통신 사업자였던 한국통신의 민영화가 한국의 보편적 서비스 정책 형성과정 및 보편적 서비스 제도에 가져온 변화 및 함의를 살펴보고자 했다. 본 연구는 사례연구라는 한계를 가지고는 있으나 국영 통신사업자의 민영화가 보편적 서비스 제도를 보다 경쟁, 유동적이고 체계적인 시스템으로 발전시키는 계기가 될 수 있는 동시에 정부주도의 보편적 서비스 정책을 실행하는데 장애요소가 될 수도 있다는 점을 반영으로써 개별 국가의 정책 목표 우선순위에 따라 국영 통신사업자의 민영화 계획수립 및 전략이 달라져야 한다는 점을 꼬박고 있다.

주제어: 민영화, 보편적 서비스, 초고속인터넷 서비스, 통신정책

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1. Introduction

Since telecommunications reforms, such as the introduction of competition and privatization, began around the world in the 1980s, many scholars have attempted to uncover its effects on the telecommunications sector[6][8][10][15][17][26][28][31][47]. In spite of many researchers’ great efforts, however, there are still many inconclusive debates on the effects of telecommunications reform on the telecommunications sector, such as the relationship between the introduction of competition and universal service, and the impact of the privatization of state-owned telecommunications companies on their efficiency and social objectives including universal service.

Additionally, research on the relationship between privatization and universal service has received less attention than other issues mentioned above, despite the fact that it is also an important and worthwhile research topic. For example, research focusing largely on the impact of privatization on universal service, such as Hills’ study[8], has been relatively less frequent than other research on telecommunications reform such as the effect of competition on efficiency, investment, and universal service, the impact of privatization on efficiency, and the effect of an independent regulatory agency on efficiency and social objectives including universal service. Instead, the impact of privatization on universal service has been briefly dealt with in other studies on the effect of telecommunications reform[10][31][47].

Further, there are incompatible findings in previous works on the impact of privatization on universal service in terms of network expansion. For instance, Hills claims that the effect of privatization is neither positive nor negative on universal service defined in terms of penetration and usage of telecommunications service, while Ros argues that privatization is correlated with telecommunications network expansion[8][31]. Hills investigates the impact of liberalization of telecommunications in the United Kingdom and the divestiture of AT&T in the United States on these two nations’ universal services and reaches a conclusion that universal service measured as penetration is affected neither by liberalization nor by privatization since there was no significant change in telephone penetration between pre- and post-liberalization and privatization in both countries[8]. From these findings, Hills predicts that the privatization of state-owned telecommunications operators is not likely to contribute to extension of universal service defined in terms of penetration and usage of telecommunications service in “Third-World countries”[8]. By contrast, Ros suggests that privatization has positive effect on network expansion, discovering that the number of telephone mainlines per capita is higher in countries that have privatized their telecommunications companies than countries that haven’t yet privatized theirs[31]. Consequently, prior research has limitations to fully shed light on how the privatization of a state-owned telecommunications enterprise impacts universal service.

From this perspective, this study attempts to discover the impact of privatization of a state-owned telecommunications operator on universal service, for better understanding the relationship between privatization and universal service. In particular, unlike prior studies which have mainly focused on how privatization influences the changes in network expansion, it investigates the impact of privatization on universal service policy formulation and the universal service mechanism through the case study of Korea which has a unique experience of the evolution of universal service.

One of the unique features of the evolution of
universal service in Korea is that the commitment to universal service was successfully displayed by the state-owned monopolistic enterprise before market-oriented reforms were introduced. Contrary to the popular idea in telecommunication policy studies that most developing countries have difficulty in promoting network expansion and securing universal service at the same time under the state-owned monopolistic era because of the monopoly's inefficiency and insufficient financial resources for network expansion, Korea achieved volume-oriented and regionally balanced network expansion, and displayed the commitment to universal service under the state-owned monopolistic era during the period of 1981-1987.[13][29]

Another unique feature of the evolution of universal service in Korea is that, unlike other countries, the universal service mechanism was not competitively neutral even after competition was introduced to the telecommunications sector and the obligation of universal service for telephone was largely imposed to the state-owned telecommunications carrier, Korea Telecom. Also, the obligation of universal service for new advanced services such as high speed Internet was asymmetrically imposed on Korea Telecom in spite of fierce competition as newcomers entered the telecommunications sector in the 1990s. In other words, the Korean government's approach to universal service by utilizing the state-owned telecommunications carrier even after the introduction of competition played a major role in achieving the rapid proliferation of high speed Internet and the development of the broadband network infrastructure in the short period.[16]

This indicates that internal cross-subsidy within Korea Telecom still supported universal service even after the introduction of competition between the state-owned enterprises and private carriers. It also implies that the Korean government still had the initiatives in implementing its universal service policies and energetically led the promotion of universal service for high speed Internet as well as telephone after the liberalization of telecommunications, utilizing Korea Telecom which could afford to contribute financial resources to universal service. To summarize, the popular idea that universal service should be secured by the state in spite of market-oriented reforms led to the creation of the unique universal service mechanism, which largely imposed the obligation of universal service on Korea Telecom without providing an incentive or full compensation even after competition was introduced in Korea.

However, the privatization of the state-owned telecommunications enterprise in 2002 confronted universal service with new challenges. It required Korean policy-makers to reconsider the traditional model of universal service and to reform the universal service mechanism in a fair and competitively neutral way. In particular, the privatization of Korea Telecom provided a momentum to terminate cross-subsidy based universal service by promoting the creation of the new, competitively neutral universal service mechanism. Additionally, it implies that the initiatives in implementing universal service policies had moved to the private sector from the government. The private sector, which played a secondary role in securing universal service in Korea, emerged as a major stakeholder in universal service after the privatization of Korea Telecom.

Based on these findings, this study attempts to discover the impact of the privatization of a state-owned telecommunications enterprise on universal service policy formulation and the universal service mechanism in Korea. To do so, the following research questions are closely investigated: 1) How did the privatization of Korea Telecom influence universal service policy formulation as well as the universal service mechanism in Korea? 2) What does the Korean case say about the relationship between
privatization and universal service?

To find answers to these questions, this article is presented as follows: the second section reviews the literature on the privatization of state-owned enterprises and summarizes the process of the privatization of Korea Telecom. Universal service before the privatization of Korea Telecom is described in the section 3 and universal service after the privatization of Korea Telecom is dealt with in the section 4. The final section provides a brief summary of this study.

2. A literature on the impact of the privatization of state-owned telecommunications enterprises and the process of the privatization of Korea Telecom

2.1 The impact of the privatization of state-owned telecommunications enterprises

Vuylstekke defines privatization as “the transfer of commercially oriented state-owned enterprises, activities, or productive assets of the government to the total, majority, or minority private ownership or to private control”[30][46]. From this perspective, the privatization of state-owned telecommunications companies is less motivated by the desire to improve telecommunications market performance, than is the case with liberalization. Rather, it is more related to political and ideological trends in the general economy[30]. As a result, it is still controversial whether or not the privatization of state-owned telecommunications enterprises contributes to better performance of the telecommunications sector[15].

For example, Some previous works[2][6][26] explain that the privatization of state-owned enterprises generally leads to improvements in the financial and operating performance of divested firms, while other works[1][18][28] indicate that the nature of ownership makes no major difference in the efficiency of a nation’s telecommunications sector, and that privatization has sometimes been adopted not solely to improve a firm’s performance but for other objectives[15].

As for the impact of the privatization of state-owned telecommunications carriers on universal service, findings in previous studies don’t reach a general consensus either. As mentioned earlier, for example, Hills says that the privatization of state-owned telecommunications enterprises has no effect on universal service, while Ros indicates that it has a positive effect on network expansion[8][31]. Furthermore, Stelmann provides empirical data that shows that telecommunications reform promotes network expansion and telephone penetration in Chile and concludes that liberalization and privatization contribute to implementing universal service, while McElhinney argues that in Australia, universal service has been jeopardized since the telecommunications market was liberalized and the former national monopoly carrier was privatized, because residents in rural and remote areas were marginalized from telecommunications service after market-oriented reform in telecommunications[25][33]. In summary, there is much to be conclusively proven about the impact of privatization on the major agenda in the telecommunications sector such as efficiency and universal service.

2.2 The process of the privatization of Korea Telecom

The plan for the privatization of Korea Telecom was announced in 1987 and it was completed in 2002. The main reason the privatization of Korea Telecom had taken such a long duration is that it
had been heavily influenced by the changes in the political and economic environment during the privatization process[12]. At the beginning stage, the privatization of Korea Telecom was caused by pressure from foreign players, such as the United States, and domestic players, such as conglomerates, who wanted to enter the Korean telecommunications market[4][9][12][24][18]. It was also promoted by the policy-makers at the MOC (Ministry of Communication) who considered that privatization could contribute to the improvement in Korea Telecom’s managerial efficiency and competitiveness by accelerating market-oriented telecommunication reform. Additionally, the privatization of Korea Telecom was expected to raise government revenues because Korea Telecom was one of the biggest enterprises in Korea[12][15][14].

Among these factors, the most important cause of the privatization of Korea Telecom was pressure from foreign players, particularly the United States, and the others were secondary factors, such as to improve Korea Telecom’s managerial efficiency and to raise government revenues, given that the Korean government planned to sell up to 49% of shares of Korea Telecom and keep its ownership of Korea Telecom when it announced the plan for the privatization of Korea Telecom[4][12][15]. If the primary goals of the privatization of Korea Telecom had been the improvement of Korea Telecom’s financial and operating performance or the realization of government revenues, the government would have attempted to sell off as much of its ownership stake of Korea Telecom as possible, and ultimately hand its ownership of Korea Telecom over to the private sector.

As is well known, Korea Telecom was one of the most important vehicles for the implementation of the government’s telecommunications policies for social objectives, including universal service. In spite of the announcement of privatization, thus, the Korean government was eager to preserve its power over Korea Telecom even after the privatization of Korea Telecom, and it attempted to undertake the privatization of Korea Telecom at a gradual pace at first in order to achieve its own purpose and agenda in the process of privatization[4][12][15]. Also, an unexpected recession in the Korean stock market caused by low economic growth in the late 1980s delayed the process of the privatization of Korea Telecom. Consequently, as Table 1 shows, the government was able to sell 20% of its shares of Korea Telecom in the first stage of privatization by 1994[12][32][14][19].

<table>
<thead>
<tr>
<th>Year</th>
<th>The process of the privatization of Korea Telecom</th>
<th>Residual government ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>The announcement of the plan for privatization</td>
<td>100%</td>
</tr>
<tr>
<td>October, 1993</td>
<td>The first sale to domestic investors (10% of the government’s shares in Korea Telecom)</td>
<td>90%</td>
</tr>
<tr>
<td>April, 1994</td>
<td>The second sale to domestic investors (4.96% of the government’s shares in Korea Telecom)</td>
<td>85.04%</td>
</tr>
<tr>
<td>November, 1994</td>
<td>The third sale to domestic investors (5.04% of the government’s shares in Korea Telecom)</td>
<td>80%</td>
</tr>
</tbody>
</table>

1) There is a discrepancy of 5.43% in the final stage between column 2 and 3. This study fails to find out the information about the discrepancy.
However, the process of privatization was accelerated starting in the mid-1990s due to the swiftly changing political and economic circumstances. First of all, it was expedited by the Kim Young-Sam government’s new development strategy initiated in 1994: Segyehwa (globalization) of Korea, which accelerated the privatization of state-owned enterprises including Korea Telecom. It was also pushed by the inauguration of the WTO system in 1995, which put pressure on the Korean government not only to permit competition but also to promote the privatization of Korea Telecom. Additionally, the unprecedented economic recession caused by the Asian currency crisis starting in 1997 induced the Korean government to complete the full-scale privatization of Korea Telecom because the Korean government had to promise the systematic restructuring of the Korean economy which represented the diffusion of competition, deregulation, liberalization, and privatization of state-owned enterprises including Korea Telecom, in order to apply for the International Monetary Fund (IMF) bailout program which was expected to rescue Korea from the economic crisis[12][15][3][14][18].

In these political and economic circumstances, the Korean government sold off 51.63% of its shares of Korea Telecom to domestic and foreign investors in the eight stages during October 1996 to January 2002. And, it took Korea Telecom public in 1999. Finally, the Korean government completed the long process of the privatization of Korea Telecom in May 2002, by selling off its remaining 28.37% stake in Korea Telecom to domestic investors[12][14]. In light of Petrizzini’s definition of privatization as “the total or partial sale of shares of a state-owned telecommunications enterprise to private investors” (p. 5), we may conclude that the Korean government successfully completed the privatization of Korea Telecom even though it had taken the extraordinarily long duration of fifteen years[30].

With regard to the privatization of a state-owned telecommunications enterprise, Petrizzini points out that the process is largely determined by each nation’s political institutions rather than its economic circumstances[30]. Similarly, the privatization of Korea Telecom was
also largely influenced by the political circumstances since the relationships among the three major players—the Korean government, domestic conglomerates and foreign players such as the United States, WTO, and IMF—got tightly intertwined with the process of the privatization of Korea Telecom, and they heavily affected the Korean government’s decisions and policies for the privatization of Korea Telecom[12][15].

Unlike the privatization of state-owned telecommunications enterprises in most other developing countries, however, the privatization of Korea Telecom has some unique characteristics. As mentioned earlier, one of these key features is that improvement in financial and operating performance of the government-run telecommunications enterprise was not a leading impetus for the privatization of Korea Telecom, contrary to other telecommunications companies in Latin America, because Korea Telecom had enjoyed large net profits even before privatization. For example, the net profits of Korea Telecom were 1010 million dollars which was 9.8% of its annual revenues in 2000. And, they were 1087 million dollars which was 9.4% of its annual revenues in 2001 just before privatization[20][22]. Additionally, in spite of pressure from foreign and domestic players who urged rapid full-scale privatization, the Korean government attempted to achieve its own purpose and agenda in the process of privatization, and thus the full-scale privatization of Korea Telecom took the extraordinarily long duration, from 1987 to 2002[4][9][15][48].

As explained before, Korea Telecom had been used to implement the Korean government’s telecommunications policies for social objectives, such as universal service and national security, before the completion of its privatization. Particularly, it was taken for granted that Korea Telecom should contribute to social objectives without full compensation for the losses incurred by them: this expectation continued even after privatization was initiated. The fact that Korea Telecom enjoyed large net profits as a whole in spite of its losses from contributing to social objectives enabled the Korean government to continue this policy, which resulted in the unique evolution of universal service in Korea.

3. Universal service before the privatization of Korea Telecom

The consensus in theory and the case study literature is that state-owned monopolies in developing countries are not able to achieve rapid network deployment due to resource constraints and managerial inefficiencies. However, Korea was able to achieve substantial network penetration during the monopoly period in the 1980s, contrary to the experience of other developing countries and the expectations from theory. Also, unlike most other countries in which telecommunications policies at the early stage of the network growth tended to target teledensity rather than regionally balanced network expansion[7], Korea introduced two ambitious network expansion programs, the Immediate Telephone Installation System (IT IS) and the Widening and Automation (WA) program, during the state-owned monopoly period, which didn’t aim at merely teledensity increases but pursued regionally balanced network expansion as well. Furthermore, contrary to other developing countries that embraced competition, or allowed foreign investment, or privatized state-owned telecommunications enterprises to raise the huge capital needed for network expansion, Korea achieved network expansion and teledensity growth largely utilizing domestically raised capital in the state-owned telecommunications carrier’s era[13].

As a result of these unique approaches to

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2) This section was adopted from the author’s previous work: The impact of competition on universal service in Korea (2010).
network expansion, teledensity growth significantly increased and the total number of telephone subscribers reached 10 million in 1987. This implies that the number of telephone subscriptions increased at the pace of about a million a year from 1981 to 1987. By 1992, the number of telephone subscribers reached 17 million and Korea ranked as the ninth top nation in the world in terms of the number of telephone subscriptions. Further, regionally balanced network expansion, energetically pursued by the Korean government with a slogan of ‘One Household, One Telephone’ in the 1980s, was also successfully achieved. Thus, telephone service was provided to almost all households, even in rural areas, mountainous regions and isolated islands before competition was introduced in the 1990s [13][14][18][21][27].

The high degree of network development achieved during the monopoly period resulted in a unique evolutionary path for universal service in Korea. For one, the introduction of competition in Korea didn’t spark demands for universal service programs, nor was competition advocated as a means of furthering universal service. Indeed, the discourse around the introduction of competition had very little to say on universal service, either in a positive way that competition will aid universal service or negatively that social objectives like universal service will be sacrificed in a competitive market. As a result, it took eight years after competition was invited to the Korean telecommunications market for the term “universal service” to appear in official documents—in the Telecommunication Business Act (TBA) revised in September, 1998. In other words, universal service emerged in the policy discourse only after the phased introduction of competition was mostly completed, and not during the eight-year period when competition was gradually introduced.

Although there was no statutory framework for universal service until the late 1990s, however, Korea did have an informal universal service system in place. The distinguishing characteristics of this system were a partnership between the government and Korea Telecom, and the expectation that the latter would continue to be asymmetrically burdened in carrying out the policies and programs of the government. First of all, in spite of the emergence of new telecommunications providers, Korea Telecom was designated as the sole universal service provider in local phone service, local public phone service, isolated area communication service, and wireless phone service for ships. Also, the asymmetric burden placed on Korea Telecom changed little even after the transition to competition was completed by 1998. As a result, Korea Telecom’s losses incurred by universal service have not been fairly and symmetrically compensated even after full-scale competition was introduced, as table 2 indicates.
The impact of the privatization of a state-owned telecommunications carrier... 47

<Table 2> Losses incurred by universal service

<table>
<thead>
<tr>
<th>Year</th>
<th>Losses (A)</th>
<th>Levy imposed on service providers (B)</th>
<th>Losses not compensated for (A-B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Korea Telecom</td>
<td>Other service providers</td>
</tr>
<tr>
<td>2000</td>
<td>728.2</td>
<td>29.0</td>
<td>50.3</td>
</tr>
<tr>
<td>2001</td>
<td>551.5</td>
<td>26.1</td>
<td>50.3</td>
</tr>
<tr>
<td>2002</td>
<td>469.2</td>
<td>72.0</td>
<td>147.4</td>
</tr>
<tr>
<td>2003</td>
<td>560.5</td>
<td>88.2</td>
<td>82.7</td>
</tr>
<tr>
<td>2004</td>
<td>368.4</td>
<td>20.3</td>
<td>46.2</td>
</tr>
<tr>
<td>2005</td>
<td>314.0</td>
<td>21.0</td>
<td>51.7</td>
</tr>
<tr>
<td>Total</td>
<td>2991.8</td>
<td>206.6</td>
<td>428.6</td>
</tr>
</tbody>
</table>

(Source: Korea Telecom, 2007)

Interestingly and paradoxically, the lacuna in the then-existing models for universal telephone service did not prevent the Korean government from extending universal service programs to new technologies such as the Internet. Consequently, the development of a national information infrastructure and universal service for the Internet were also initiated and promoted largely by the government-run telecommunications service provider. The repetition of the same pattern of reliance on the former monopoly carrier to implement government policy indicates that the pattern is a deliberate strategy. In other words, despite the fact that there were no universal service mechanisms or funding for broadband network service, Korea was able to implement its universal service policies for the Internet, such as the Korean Information Infrastructure Project, with little worry about funding resources because the government had a major stake in Korea Telecom and compensation for Korea Telecom's losses from providing the Internet to high cost areas was not a big concern, before Korea Telecom was privatized[11][23]. In effect, the obligations of universal service for the Internet, such as the construction of infrastructure and providing broadband network service to rural areas at affordable rates, were also largely imposed on the state-owned telecommunications service provider even after competition was introduced.

To summarize, the most important feature of the evolution of universal service in Korea is that competition did not terminate Korea Telecom's status as the main universal service provider. In contrast to most other countries' cases where the former monopolies accepted a symmetric regulation only under protest, or when they were allowed other attractive inducements—such as the permission to enter long-distance in the United States, Korea Telecom, as a state-owned enterprise, acquiesced in the asymmetric regulation even after the introduction of competition until its owner ship change. Before privatization, Korea Telecom was still regarded as the government-run enterprise with a duty to promote social welfare, and it had the financial resources and capabilities to contribute to social objectives, such as universal service. For instance, despite losses from universal service, the average of Korea Telecom's annual net profits was $672 million during 1995-2002, which enabled Korea Telecom to provide financial support for implementing the government's agenda in telecommunications, such as universal service[20][22]. But once Korea Telecom was privatized, this system proved to be no longer sustainable.
4. Universal service after the privatization of Korea Telecom

To begin with, the privatization of Korea Telecom influenced the government's universal service policy for broadband network service. The Korean government has employed universal service policies for broadband networks as a way to promote the economic and social development since the 1990s without a worry about financial resources, due to Korea Telecom. The government was able to drive Korea Telecom to implement its universal service policies for broadband networks without the funding mechanisms before it privatized Korea Telecom. However, the privatization of Korea Telecom required the government to devise the systematic universal service mechanism for broadband networks because the government had difficulty driving the privatized Korea Telecom to contribute to universal service for broadband networks without providing compensation for the losses by it. In order to resolve this problem, consequently, the government enacted a temporary law in 2002 that designated Korea Telecom as a dominant telecommunications service provider which has the obligation until 2005 to construct the broadband network infrastructure in rural areas. According to the temporary law which was effective until 2005, Korea Telecom provided the broadband network infrastructure to a half million households in rural areas during 2003 ~ 2005, and 95% of all Korean households were able to access broadband networks by the end of this period. For this project, Korea Telecom invested 85.8 million dollars from the time it was privatized up to 2005.[5][23][44].

Along with the enactment of the temporary law, the government attempted to include high speed Internet in the universal service package in order to provide all citizens with broadband network access at an affordable rate, irrespective of where they live. It planned to impose the obligation of universal service for high speed Internet on all telecommunications carriers. However, the government failed to include high speed Internet in the universal service package, due to the resistance of the private telecommunications enterprises, including Korea Telecom, as well as other unresolved problems related to universal service for new advanced communications technologies, such as the debates about what kind of platform should be adopted as a standard for universal service, and whether or not mobile phone service should be included in the universal service package if high speed Internet is included.[5][34][45].

Instead of including high speed Internet in the universal service package, thus, the government decided to introduce new universal service policies for broadband network service at the end of 2005, when the temporary law forcing Korea Telecom to construct broadband networks in rural areas was supposed to expire, in order to provide all households in rural areas with broadband network access by 2007. The newly introduced universal service policy for broadband network service was called “The Matching Fund”, which was devised to promote the construction of the broadband network infrastructure by providing central and local governments’ financial resources to private telecommunications enterprises which took part in constructing the broadband network infrastructure in rural areas. Under the Matching Fund System, 50% of the total costs of the construction of broadband networks in rural areas was provided by the telecommunications enterprise, and the rest were provided half and half by the central and local governments. It did not designate the telecommunications carrier that should take part in this project, but the privatized Korea Telecom was selected as the sole service provider to carry out the project because the other telecommunications enterprises could not afford to provide the broadband network infrastructure to rural areas.
Korea Telecom could not help participating in the project to avoid the conflict with the government, which not only was the most powerful regulator in telecommunications but also still had influence on the privatized Korea Telecom through interpersonal networks and political connections, despite the fact that it was reluctant to carry out the project which was regarded as an unprofitable business[5][23][34][45].

In March and April, 2006, Korea Telecom made contracts with central government and local governments for the construction of broadband networks in rural areas during 2006~2007, under the Matching Fund System. And, as the first step of this project, Korea Telecom began to construct the broadband network infrastructure in Jeonnam province’s rural areas starting in March 2006. Based on the Matching Fund System, Korea Telecom provided 50% of the total costs of the project which was 5.15 million dollars, and the central government and Jeonnam government each provided 25% of the total costs of the project.

Overall, Korea Telecom provided 35.2 million dollars for the projects by the Matching Fund System during 2006~2007, and the central government and local governments each contributed 17.6 million dollars to the projects during the same period. As a result, the broadband network infrastructure was newly provided to 131 thousand and 224 thousand households in rural and isolated areas respectively during 2006~2007, and thus only about 1% of all Korean households remained without the broadband network infrastructure by 2007. The government originally planned to complete the projects under the Matching Fund System by 2007, but it decided to extend them to 2008 in order to provide the broadband network infrastructure to all households[23][44].

As covered so far, the big change in the Korean government’s universal service policies for high speed Internet after the privatization of Korea Telecom is that an administrative understanding was converted into a legal obligation. Previously, Korea Telecom funded universal service in an informal commitment to the government; but after privatization, the government enacted a law and introduced the new universal service system in order to impose the obligation of universal service on the private telecommunications enterprises who may have put their profit maximization first. The privatization of Korea Telecom caused the government to realize that it needed legal grounds to continue implementing universal service policies for broadband networks because it was not able to push the private sector to contribute to universal service without the authority of law.

The privatization of Korea Telecom also provided a momentum to reform the universal service system for telephone service because the privatized Korea Telecom strongly argued that the obligation of universal service for telephone should be fairly imposed on all telecommunications enterprises in a competitively neutral way, and thus the operating mechanism of universal service for the telephone, particularly the funding support, should be reformed because it was unfair to Korea Telecom[23][35][36][37][38][39]. Contrary to the universal service system for high speed Internet which was newly stipulated by law simultaneously with the privatization of Korea Telecom, the universal service mechanism for the telephone, created with the introduction of full-scale competition in 1999, was not reformed simultaneously with the privatization of Korea Telecom. The Korean government stated that it needed time to study other countries’ universal service systems and to seek an alternative formulation that would redefine the concepts of universal service, reappraise the scope of universal service, and create the operating mechanism of universal service in a competitively neutral way. In the interim period until this new formula could be finalized, the Korean government proposed to continue the present system[35].
But eventually, the mechanisms for universal telephone service too needed reform. As a result, the government launched a project team consisting of the Ministry of Information and Communication (MIC), Korea Information Society Development Institute (KISDI), and telecommunications service providers in April 2006, four years after the privatization of Korea Telecom. The project team began to review the present universal service mechanism in order not only to study the controversial issues related to universal service but also to reform the universal service system. Through the activities of the project team, the government tried to reform the universal service system not only for the telephone but also for advanced communications technologies including high-speed Internet, and ultimately to arrive at a new framework of universal service for the information society. The project team was expected to complete the review of the present universal service mechanism by the end of 2006 and propose a draft of the new universal service system during 2007[36][39]. Contrary to the government’s expectation, however, the project team has made slow progress in drafting the new universal service mechanism due to some critical issues economically and technologically, and thus the framework of the new universal service system has not yet been shaped as of this writing, in early 2011.

The delay in making the new universal service system has been caused by two main reasons, drastic changes in the government organizations in charge of telecommunications and complications among telecommunications carriers with regard to universal service, particularly conflicts between the privatized Korea Telecom and other service providers. Among these factors, the leading cause to delay a draft of the new universal service system is the differences between Korea Telecom and other telecommunication enterprises, such as SK Telecom, over universal service—its scope, funding mechanism, designation of universal service providers, and compensation for the losses incurred by providing universal service. For example, Korea Telecom argued that full compensation for the universal service provider’s losses caused by providing high-cost areas with local call service and public phone service should be ensured by the new universal service system, while other telecommunications carriers opposed reimbursement for them if the universal service provider would make profits from those services as a whole[23][35][37][38][39].

In this circumstance, an unexpected delay in the drafting process occurred in late 2007. President-elect Lee Myung-Bak announced the downsizing plan of the government organizations in December 2007, and decided to abolish the MIC in January 2008. Thus, the MIC, which had been in charge of the development of the information and telecommunications industry as well as informatization in Korea since the mid-1990s, ceased to exist in February 2008. The abolishment of the MIC caused the project team for the new universal service mechanism to discontinue its activities for a couple of months until the Korea Communications Commission (KCC), the new government organization in charge of telecommunications and broadcasting, got into its stride[40].

The discontinued task of drafting the new universal service system was resumed with the launch of the KCC in February 2008, and its basic principles were introduced by the KCC. With regard to the restructuring of universal service, continuing the policies of the former MIC, the KCC also attempted to create the new universal service system which would meet the needs of the new telecommunications market structure caused by fierce competition among telecommunications enterprises, the convergence of telecommunications and broadcasting, and the privatization of Korea Telecom. To achieve this goal, first of all, the KCC considered introducing the universal service
fund (USF) in the United States which was expected not only to raise the financial resources for universal service fairly and symmetrically but also to administer the disbursements more efficiently. Secondly, the KCC announced that the universal service provider’s losses incurred through providing local call service and public phone service to high-cost areas would be properly compensated in the new universal service system by restructuring the computation of compensation for the losses. Thirdly, the KCC indicated that the scope of universal service would be reviewed and re-stipulated in the new universal service system in order to cope with changes in the telecommunications market.[41][42][43].

Despite the KCC’s approaches to the main universal service issues described above, a couple of unresolved complex issues, such as how to manage the universal service fund and how to designate a universal service provider, make the creation of the new universal service system uncertain and tentative even after the lapse of a couple of years since the project team began discussions on restructuring universal service. Thus, this study has a limitation to predict the exact shape of the universal service system that will be introduced to the Korean telecommunications sector in the near future.

As indicated before, however, the KCC’s approaches to the restructuring of universal service have provided important and crucial clues about the framework of the new universal service system. First of all, the new universal service system would be more systematic and elaborate in that the government has created laws and policy documents governing universal service in high speed Internet; ad hoc administrative understandings would no longer work since Korea Telecom, which had been the government’s principal vehicle to implement its universal policies as a state-owned telecommunications enterprise, has been privatized. Additionally, the government may increasingly rely on legal instruments to redefine the concept and the scope of universal service in order to implement its universal service policies for new advanced services, instead of exercising its discretion. Secondly, the new universal service system would be funded through more competitively neutral mechanisms since the KCC plans to create the USF and reform computation of compensation for the losses due to universal service. These new mechanisms aim at imposing the obligation of universal service on all service providers symmetrically and fairly. Thirdly, the framework of the new universal service system would be heavily influenced by the private sector, particularly Korea Telecom whose status was changed after privatization to a major negotiation partner from an enterprise controlled by the government in implementing universal service. Korea Telecom is still the biggest and the most influential service provider as well as the sole telecommunications carrier which is able to provide universal service all over the country, in spite of the rapid growth of its main competitor, SK Telecom. Evidently, the Korean government needs the privatized Korea Telecom’s cooperation in order to implement its universal service policies with smoothness and effectiveness because Korea Telecom has appeared as one of the main independent stakeholders in universal service since its privatization.

To summarize, the process of the improvements in the Korean universal service system starting in 2002 indicates that the government has to cooperate with the private sector to implement its universal service policies after the privatization of Korea Telecom, whereas before privatization, the Korean government could implement its universal service policies independent of the private sector due to its control over Korea Telecom and the latter’s operational profits. This implies that the privatization of Korea Telecom caused significant changes in the Korean government’s universal service policy formulation as well as the Korean
universal service system. With the appearance of the privatized Korea Telecom, the interaction between the government and the private telecommunications enterprises, alternating between conflict and cooperation, has become a more influential factor to affect the process of universal service policy formulation rather than the government’s autonomy. Consequently, universal service has become more systematic and elaborate, and simultaneously universal service policy formulation has become a more complex and time-consuming process.

5. Conclusions

The answer for the first research question of this study—How did the privatization of Korea Telecom influence universal service policy formulation as well as the universal service mechanism in Korea?—is presented as follows! In Korea, the privatization of a state-owned telecommunications enterprise caused the significant changes in universal service. First of all, it provoked critical questions regarding universal service, such as how to generate universal service funds in a more competitively neutral way, and how to implement universal service policies for new advanced services without the process of universal service policy formulation; policy could no longer be formed at the government’s discretion because the private sector emerged as a major stakeholder in universal service, particularly Korea Telecom without whose cooperation the government would not be able to implement its universal service policies. In other words, the privatization of Korea Telecom provided a momentum to make universal service more systematic and elaborate in that the universal service system may not be operated smoothly without the agreement between the government and the private sector. Simultaneously, it makes universal service policy formulation a more complex process of a long duration than before.

With regard to the second research question of this work, the key finding of this study will be presented. The Korean case implies that a state-owned telecommunications enterprise would be a useful and effective vehicle to secure the government’s agenda in telecommunications, such as universal service. After competition was introduced to telecommunications, Korea was able to achieve the rapid development of the broadband network infrastructure and secure universal service for high speed Internet and telephone with little conflict with the private carriers that were reluctant to contribute to universal service, utilizing Korea Telecom which was controlled by the government and enjoyed large net profits in spite of the emergence of new competitors during the 1990s.

In other words, the Korean case says that a government-run carrier can be utilized for implementing the government’s agenda in telecommunications, such as universal service, in the process of market-oriented reform which mainly aims at the improvement of economic efficiency rather than the promotion of social objectives. Thus, the privatization of a state-owned telecommunications carrier might deprive the government of a useful and effective vehicle to secure social objectives at its discretion. Additionally, it makes universal service policy formulation a more complex process to be secured over a longer time-frame than before, because the government is now required to negotiate and cooperate with the private sector rather than exercise its discretion in implementing the universal service policies after the government–run telecommunications enterprise is privatized. In a positive point of view, however, privatization plays a major role in decreasing the government’s discretion and market intervention, and thus contributes to making the universal service
mechanism more systematic and competitively neutral. In the Korean case, for example, privatization is a double-edged sword that has positive and negative impacts on universal service, as described in the previous section. Therefore, a state, which plans to privatize its telecommunications enterprise, needs to figure out how to operate the universal service system smoothly and secure universal service effectively without the government-run carrier before it completes privatization, in order to maximize its positive effects, and simultaneously minimize its negative effects on universal service.

As discussed so far, this case study of Korea seeks to provide a better understanding of the relationship between privatization and universal service. As a case study, however, this study has a limitation in generalizing the relationship between the privatization of a state-owned telecommunications enterprise and universal service because of the unique features which Korea has demonstrated in the process of telecommunications reforms, such as the introduction of competition and the privatization of Korea Telecom, and the evolution of universal service. For example, Korea achieved the remarkable economic development starting in the 1970s, and the demands for telecommunications service from business and residents rapidly increased. This enabled the government-run telecommunications carrier to create the huge capital for network investment domestically, and it was able to enjoy large net profit before privatization unlike other state-owned telecommunications enterprises in other developing countries. Thus, atypical strategies, which Korea has employed to implement universal service in the process of the privatization of Korea Telecom, may not be directly applied to other developing countries. In spite of this limitation, this work may contribute to providing policy-makers and scholars in telecommunications with a better understanding of the impact of the privatization of a state-owned telecommunications enterprise on universal service as well as some useful policy suggestions by concretely illustrating a unique case of the evolution of universal service in Korea.

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