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Government Roles and Limitations in ICT Policy: A Case Study of Korean Telecommunication Rate Policy

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Government Roles and Limitations in ICT Policy: A Case Study of Korean Telecommunication Rate Policy

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ABSTRACT

This study¹ is an empirical study on the effect of telecommunication rate policy in Korea. More specifically, it examines the relationship between the Mobile Device Distribution Improvement Act enacted in 2014 and mobile telecommunication rate and device installments. Therefore, the research question is ‘How does the Mobile Device Distribution Improvement Act affect consumers' telecommunication rate and device installments?’ Six - year data from the KISDI Media Panel was used as the research data, and STATA 13.0 was used for the analysis. As a result of the analysis, since the implementation of Mobile Device Distribution Improvement Act, both the communication charges and the terminal installments of users decreased. Despite these monetary benefits, the policy did not establish transparency in the distribution of the mobile communication market, which was originally intended, and it was limited in that it failed to secure policy compliance or trust from the policy target. It is necessary to enhance policy effectiveness through policy adaptability and trust in communication policy.

1 INTRODUCTION

“What is the government's role in telecommunication rate policy and how far can the government's market intervention for consumer welfare be allowed?”

There is a hot debate on the Mobile Device Distribution Improvement Act (hereinafter referred to as the “Device Distribution Act”). After the enforcement of the Device Distribution Act on October 1, 2014, the social discussion on the effectiveness of the system was heated, but neither side secured policy justification. The discussion on the effect and continuity of the Device Distribution Act has continued. For instance, in September 2017, there was a discussion on the discontinuation of the ceiling on the

subsidies introduced as a 3-year sunset period at the time of the Device Distribution Act. The discussions on the Device Distribution Act just emphasize each side's claims unilaterally, rather than being a rational process based on an objective review of the effectiveness of the policy.

This study empirically analyzes the effect of the Korean government's telecommunication rate policy using Korean media panel data for six years, from 2011 to 2016, provided by the Korea Information Society Development Institute (KISDI). The topic of this study is "How did the Device Distribution Act affect consumer telecommunication rates and device installments?" The panel data were analyzed using STATA 13.0. In the following chapters, first, the handset subsidy is discussed in general, and the handset subsidy policy is outlined. Second, the effects of the handset subsidy and the telecommunication rate policy are empirically examined, and the major variables, research model, research question, and research hypotheses are derived. Third, the research method is discussed, and the operational definitions of concepts, measurements, and analysis methods for the empirical analysis are introduced. Fourth, the policy effects of the Device Distribution Act are analyzed through descriptive statistics, factor analysis, and panel data regression analysis, and the policy implications of the analysis are presented.

2 Literature Review

2.1 Handset Subsidy Policy of South Korea

The handset subsidy issue has been a very important part of Korean telecommunications regulation. Based on the Telecommunications Business Act, the government has ensured that subsidies for equipment do not lead to discrimination against users and adherence to illegal distribution structures. The regulation on the prohibition of device subsidies was enacted through amendment of the Telecommunications Business Act in December 2002. And the law that was scheduled for sunset in 2006 was extended once more by 2008. After 2008, subsidies were allowed to go beyond the subsidy limit of 270,000 Korean won (about 270 dollar). However, after 2008, subsidy competition intensified and the government revised the upper limit of the subsidy by setting guidelines in 2010. Accordingly, the Korean government issued numerous investigations and sanctions against illegitimate discriminatory subsidy payments. In addition, in the 2012 government audit, it was emphasized that excessive competition for device subsidies and countermeasures to solve excessive user discrimination problems were emphasized. At the same time, the National Assembly also proposed amendments to the telecommunication carrier law, related to the restriction of device subsidies and the ban on communication penalties. In November, the Korea Communications Commission and

the User Protection Bureau formed a TF to improve the distribution structure of terminals (November, 2012).

At the time when the handset subsidy bill was prepared in 2014, discriminatory and opaque subsidy payments were one of the biggest issues in the mobile service market. Subsidies were concentrated on the seller and a small number of consumers, who earned excess profits, while the majority of consumers suffered relative losses, and this structure was Telecom carriers used subsidies as a means to secure new subscribers, and new subscribers enjoyed more benefits than existing subscribers. This support structure of telecom carriers worsened the distorted telecommunication market structure such that consumers bore the ongoing transaction costs to find a better subsidy.

The Mobile Device Distribution Improvement Act ("Device Distribution Act"), established for the purpose of promoting a fair and transparent distribution order for mobile devices, became effective on October 1, 2014. The Device Distribution Act stipulated support without discrimination so that the same subsidy would be paid for the same device regardless of subscription type or region. The Mobile Device Distribution Improvement Act established for the purpose of establishing a fair and transparent distribution order of mobile devices was implemented on October 1, 2014. According to Article 1 of the Mobile Device Distribution Improvement Act, the purpose of this Act is to contribute to enhancing public welfare by promoting sound development of the mobile communications industry and by protecting the rights and interests of the users thereof through establishment of sound and transparent distribution order of mobile communications terminal devices.

Contents	
2002	Revision of Telecommunications Business Act: Prohibition of device subsidies (sunset clause)
2006	Extended Sunset Terms (~ 2008)
2008	grant subsidy within statutory limit
2010	Restrictions on upper limit of subsidy (by guideline)
2012	Korean Assembly, commencement of amendment of telecommunications business act
2012	Government, Installation of TF to improve terminal distribution structure
2014	Enforcement of Mobile Device Distribution Improvement Act (sunset clause)
2017	Abolition of the Act

Those who supported the subsidy payment for mobile phones believed in strong regulations for the following reasons: (1) if a handset subsidy is given to the new subscriber, it will eventually become a burden for the national economy, (2) the subsidy expansion in the mobile telecommunication service market will increase the rigidity of the existing telecom market structure, and (3) not only market competition, but also consumer welfare will deteriorate. Opponents argued that: (1) subsidy payments can lower the initial burden of subscriptions to consumers and induce price competition

among providers, and (2) regulating subsidy payments is an excessive restriction and may violate the freedoms of the business operator guaranteed by the Constitution [10, 11, 14, 21, 30]. Therefore, opinions about the enforcement and effects of the Device Distribution Act were also divided. Furthermore, there was controversy about whether actual effects can be produced only with the regulation of the handset subsidy in the absence of addressing the issues of the rate permission system, the separate notification system, and other systems.

Therefore, there has been continuous controversy about the policy effect of the Device Distribution Act since the enforcement of the Act. After the enforcement of the Device Distribution Act, the Korean Government claimed that policy effects are appearing through changes in consumers' consumption patterns and increased competition among mobile phone companies. For example, the proportion of subscribers in mid- to low-priced rate plans and the number of used phone subscribers have increased, while subscribers to supplementary services have decreased. Mobile carriers have revised their subscription fees and rate plans while manufacturers are lowering the factory prices and releasing mid- to low-priced phones (IT Times, Dec. 6, 2014). On the other hand, as subscriptions of high rate plans increased during two months after enforcement, demand for rate plan improvement increased. In addition, the limitations of the Device Distribution Act were pointed out, as the Device Distribution Act circumvention phenomenon appeared in which excessive subsidies are competitively paid for older phones that do not have a subsidy cap (IT Today, Nov. 24, 2014). Afterward, the controversy surrounding the effectiveness of the policy was repeated whenever any data related to the Device Distribution Act were announced. Recently, with the inauguration of the Moon Jae-In government, various plans for restructuring of the mobile communication rate plan have been discussed, including the abolition of the Device Distribution Act, the introduction of the separate notification system, and the expansion of the optional contract discount system.

2.2 Previous Works Related to Handset Subsidies

The research trends on handset subsidies can be divided into theoretical research on handset subsidies in general in the field of economics, quantitative empirical studies on the effects of handset subsidies, and general policy and case studies on handset subsidies and the Device Distribution Act.

The economic approach to the handset subsidy has aimed to establish theoretical models about economic logics around the subsidies or regulations and market effects (market competition effects, consumer welfare effects, etc.) or to empirically analyze the effects by estimating demand or measuring consumer welfare [1, 4, 5, 6, 8, 10, 11, 13, 14, 16, 18, 20, 21, 30, 31, 32, 33]. However, the results of these studies suggest contradictory results on the effect of handset subsidies, and the opinions about empirical analysis results are either contradictory or only possibilities mentioned by the researchers that can occur in various situations [2, 3, 11, 22].

As discussed above, although studies on various handset subsidies have been carried out thus far, the debate on the policy effect around the Device Distribution Act has not settled down, but instead is heating up. Although there have been some empirical studies on the effects of handset subsidies, there have been only a few studies on the effect of the Device Distribution Act. Furthermore, the empirical analyses focus mainly on the formulaic calculation of welfare effects. Therefore, there has been a lack of research on the analysis of policy effects using consumer data on actual telecommunication rates and device installments. The present study is meaningful in that it examines the changes of telecommunication rates and device installments more specifically by analyzing the panel data that has been collected for six years based on nationally approved statistical data.

3 RESEARCH METHOD

3.1 Research Analysis Framework

This study's research problem, which analyzes the policy effects of the Device Distribution Act that became effective in October 2014, is: "How did the Device Distribution Act affect consumers' telecommunication rates and device installments?" More specifically, the research problem and hypotheses of this study are as follows:

Research problem: How did the Device Distribution Act affect consumers' telecommunication rates and device installments?

Hypothesis 1: The Device Distribution Act will lower consumers' telecommunication rates.

Hypothesis 2: The Device Distribution Act will lower consumers' device installments.

The Device Distribution Act is designed to promote consumer welfare, reasonable consumption behavior, and fair competition in the market by securing transparency in the distribution structure of mobile devices. In particular, the Device Distribution Act provides support for non-discriminatory subsidies so that the same subsidies will be paid for the same devices regardless of subscription type or region for subsidy support that focuses on new subscriptions to telecom carriers. Thus, it will prevent biased consumption of the latest expensive devices and reduce the burden of device installments by increasing the use of low- to mid-priced devices. Moreover, it is expected that telecommunication rates will be reduced by introducing a policy to increase the range of optional contract discount systems (12% -> 20%) that provide a rate discount if consumers select the rate discount (two-year contract) instead of receiving the terminal subsidy.

The dependent variables are the consumer's expenditure of telecommunication rates and the expenditure of device installments. The independent variable is the enforcement of

the Device Distribution Act. The control variables consist of demographic factors such as gender, age, educational background, occupation status, and monthly income; such as possession of a mobile phone, possession of a smartphone, mobile phone communication time, and wireless internet use time (3G and 4G); and policy factors such as welfare discount and subscription of the mobile virtual network operator (MVNO) service.

3.2 Key Variables and Metrics

User demographic variables have been steadily addressed as causal variables affecting the use of mobile phones. Gender, age, income, education level, occupation, and so on have been used as user demographic variables. Furthermore, factors affecting mobile communication rates and device installments include the possession of a mobile phone, the number of mobile phones in possession, possession of a smartphone, mobile phone call time, and wireless Internet use time such as 3G and 4G. In addition, the effects of telecommunication policies such as the application of welfare discounts and the use of MVNO services are also important factors in telecommunication rates and device installments. <Table 2> summarizes the main variables and measurements.

Table 2: Main variables and measurements

Variable name	Items	Measurements
Dependent Variable	Monthly mobile phone communication charge	1: less than 1 million won 2: Less than 20,000 won 3. Less than 30,000 won 4: Less than 40,000 won and less than 40,000 won 5: Less than 40,000 won and less than 50,000 won 6: Less than 50,000 won and less than 60,000 won 7: Less than 70,000 won 8: Less than 70,000 won and less than 80,000 won 9: Less than 90,000 won and less than 90,000 won 10: 90,000 won or more and less than 100,000 won 11: Over 10 million won (1 dollar = 1200 Korean won)
	Mobile communication rates (Excluding content/information usage fee, and device installment based on the last 3 months rate. If you use more than one mobile phone, total charge)	
Independent Variable	Device installments	Monthly installment payments. (If you use more than one mobile phone, total installment) 1: less than 1 million won 2: Less than 20,000 won 3. Less than 30,000 won 4: Less than 40,000 won and less than 40,000 won 5: Less than 40,000 won and less than 50,000 won 6: Less than 50,000 won and less than 60,000 won 7: Less than 70,000 won 8: over 7 million won (1 dollar = 1200 Korean won)
	gender	male, female 0: female 1: male

Variable	Ages	
	- Under 10 years old	
	- 10-19 years	(Dummy variable)
	- 20-29 years	1: Under 19 years old
age	- 30-39 years old	2: Only 20-39 years old (reference variable)
	- 40-49 years	3. 40-59 years old
	- 50-59 years	4: over 60 years old
	- 60-69 years	
	- over 70 years old	
	Final education	
	- Preschool	
	- Below elementary school graduation	
	- Below junior high school graduation	(Dummy variable)
education	- Below high school graduation	1. Below elementary school graduation
	- University graduation or below	2. High school graduation or below
	- More than a graduate school student	3. Above university graduation (reference variable))
	Monthly personal income	
income		1. No income
		2. Less than 500,000 won
		3. Less than 50 ~ 10 million won
		4. Less than 100-200 million won
		5. Less than 200 to 30 million won
		6. Less than 300 to 4 million won
		7. Less than 400 to 5 million won
		8. More than 5 million won
		(1 dollar = 1200 Korean won)
occupation	occupation	0: none
		1: occupation
mobile phone status 1	Using a mobile phone	0: None
		1: Yes
mobile phone status 2	number of mobile phones	-
smartphone	Whether you have a smartphone	0: None
		1: Yes
mobile phone operator	mobile phone operator	1. SKT
		2. KT(KTF)
		3. LG U+(LGT)
		4. (MVNO)
welfare discount	welfare discount	0: None
		1: Yes
mobile phone call time	Mobile phone service usage time (call, text)	-

mobile phone data	Mobile Internet (3G, 4gG)	-
MVNO	Whether to join MVNO	0: None 1: Yes
Mobile Device Distribution Improvement Act	the enforcement of the law (Oct. 2014)	0: Mobile Device Distribution Improvement Act 1: After the enforcement of the law

3.3 Analysis Data and Analysis Method

This study used the data from the Korea Media Panel surveys conducted by KISDI every year for six years from 2011 to 2016 (Statistics Korea Nationally Approved Statistics No. 40501). The survey method was interviews with households, and the surveyed areas included a total of 5,000 households in 17 provinces and cities (household members aged 6 years or older). For the analysis method, panel data analysis was used to determine the characteristics of the data and analyze the policy effects. Panel data analysis can estimate the dynamic relationship between variables by simultaneously performing time-series analysis and cross-section analysis. The model setting errors due to omitted variable bias can be reduced by considering the unobserved heterogeneity factor of individuals in the model. Furthermore, it provides more information and variability of variables than cross-sectional data or time-series data, thus mitigating the problem of multi-collinearity. In addition, the panel data analysis method is more efficient and makes it easier to obtain estimated values (In-Sik Min and Pil-Seon Choi, 2010). STATA 13.0 was used as the statistical analysis application in this study.

4 ANALYSIS RESULTS

4.1 Descriptive Statistics

In this section, the descriptive statistics of the main variables used in this study are examined. First, the average telecommunication rate and device installment, which are dependent variables, were 42,530 KRW per month and 6,450 KRW per month, respectively.

Table 2: **The Average Telecommunication rate and device installment**

Unit: 1000 KRW	N	Min	Max	Average	s.d
Monthly mobile phone charge	36556	0	999	42.53	23.118

Monthly device installment	36563	0	850	6.45	12.195
N	36548				

Next, the telecommunication rates and device installments for each key variable are examined. For the monthly average telecommunication rates, men have higher telecommunication rates than women. By age, the group of 20- and 30-year-olds showed the highest rate, followed by the group of 40- and 50-year-olds. According to the final education level, college graduates or higher showed higher telecommunication rates. For those who are employed, their telecommunication rates were higher when their monthly income was higher. In the case of the possession of a smartphone, the communication rates of smartphones were higher than those of general mobile phones by more than 20,000 KRW. In the case of MVNO subscribers, their communication rates were lower. When the telecommunication rates before and after the Device Distribution Act went into effect were compared, the average telecommunication rates were higher than before the Device Distribution Act. The data concerning device installments are generally similar to telecommunication rates, but by age, teenagers had more device installments. When device installments before and after the Device Distribution Act went into effect were compared, the average amount of device installments were lower than before the Act.

Table 3: **descriptive statistics**

Unit: 1000 KRW		Monthly mobile phone charge				Monthly device installment			
		N	Average	s.d	percent	N	Average	s.d	percent
gender	female	20594	39.79	20.139	52.7%	20602	6.12	11.704	53.5%
	male	15962	46.07	26.048	47.3%	15961	6.87	12.789	46.5%
	total	36556	42.53	23.118	100.0%	36563	6.45	12.195	100.0%
age	Under 19 years old	3935	35.03	16.639	8.9%	3935	6.97	16.264	11.6%
	20-39 years old	8437	55.01	25.499	29.8%	8434	10.05	13.020	36.0%
	40-59 years old	15101	46.91	21.521	45.6%	15099	7.21	12.659	46.2%
	over 60 years old	9083	26.91	14.573	15.7%	9095	1.61	4.874	6.2%
	total	36556	42.53	23.118	100.0%	36563	6.45	12.195	100.0%
education	Below elementary school	6517	24.83	13.805	10.4%	6528	1.43	4.633	4.0%
	High school graduation or below	18316	42.04	20.430	49.5%	18314	6.26	11.700	48.7%
	Above university graduation	11722	53.13	24.930	40.1%	11720	9.53	14.648	47.4%
	total	36555	42.53	23.116	100.0%	36562	6.45	12.196	100.0%
occupation	None	16967	36.99	19.457	40.4%	16972	5.69	11.987	40.9%
	Yes	19589	47.34	24.894	59.6%	19591	7.11	12.336	59.1%
	total	36556	42.53	23.118	100.0%	36563	6.45	12.195	100.0%
income	No income	15004	38.21	19.234	36.9%	15006	6.04	13.073	38.5%
	Less than 500,000 won	2052	27.15	17.449	3.6%	2058	2.48	6.567	2.2%
	Less than 50 ~ 10 million won	3315	32.62	17.178	7.0%	3316	3.27	7.997	4.6%

	Less than 100-200 million won	6486	4522	24134	189%	6487	683	12190	188%
	Less than 200 to 30 million won	4981	5227	20351	16.7%	4982	827	12677	175%
	Less than 300 to 4 million won	2910	5498	27383	10.3%	2909	904	10645	11.2%
	Less than 400 to 5 million won	1020	5738	37785	3.8%	1018	974	15651	4.2%
	More than 5 million won	776	5805	23618	2.9%	775	950	11678	3.1%
	total	36544	4254	23120	100.0%	36551	645	12197	100.0%
smartphone	None	15253	2813	16972	27.6%	15264	.74	4040	4.8%
	Yes	21303	5285	21352	72.4%	21299	1054	14266	95.2%
	total	36556	4253	23118	100.0%	36563	645	12195	100.0%
welfare discount	None	35079	4297	23103	97.0%	35086	652	12110	97.0%
	Yes	1475	3209	20932	3.0%	1475	472	13966	3.0%
	total	36554	4253	23118	100.0%	36561	645	12196	100.0%
MVNO	None	36292	4264	23131	99.5%	36299	647	12225	99.7%
	Yes	264	2725	14714	.5%	264	294	6185	.3%
	total	36556	4253	23118	100.0%	36563	645	12195	100.0%
MDDI Act	before	24010	4162	23249	64.3%	24013	576	13116	58.7%
	After	12546	4428	22765	35.7%	12550	776	10077	41.3%
	total	36556	4253	23118	100.0%	36563	645	12195	100.0%

4.2 Panel Data Analysis

Panel data analysis was conducted to measure changes in monthly mobile phone telecommunication rates and device installments after the Device Distribution Act. The analytical model used was a fixed effects model that reflects the data characteristics and the results of Hausman test. Two models were used to separately analyze the effects of the Device Distribution Act on telecommunication rates and device installments.

First, the Device Distribution Act had a significant negative effect on the monthly telecommunication rates of mobile phones. The reason is that as a result of the Device Distribution Act, consumers purchased low- to mid-priced smartphones to reduce the burden of high-rate plans by moving away from the consumption tendency that relies on high rate plans and high device installments, and increased rational consumption instead of frequent replacements of mobile phones. Furthermore, support for device installments and discount choice (optional discount contracts) has been provided to reduce the burden of device price and increase benefits in telecommunication rates. In addition, when the factors affecting telecommunication rates were analyzed, demographic factors including age (highest telecommunication rates among people in their 20s), educational background (highest telecommunication rates among college graduates), and monthly income showed significant effects on telecommunication rates. For the communication environment factors, telecommunication rates increased with the increase of call time and wireless

internet use time for consumers having smart phones. For policy factors, welfare discounts and MVNO policies showed significant effects on lowering telecommunication rates.

Second, the Device Distribution Act had a significant negative effect on device installments as with telecommunication rates. In other words, the monthly average device installment has also decreased since the Device Distribution Act went into effect. The reason for this is that since the Device Distribution Act, the consumption tendency of using the latest expensive phones has weakened, and the use of low- to mid-priced phones with relatively inexpensive device installments has been increasing. Furthermore, telecom companies have prepared various low- to mid-priced phones to expand the selections for consumers. Although illegal and expensive subsidy payment practices have not been completely eradicated even after the enforcement of the Device Distribution Act, the change in the purchasing patterns of consumers and the sales strategies of telecom companies have positively influenced the reduction of overall telecommunication rates and device installments.

Table 4: **the result of panel data analysis**

fixed effect model		Model 1: Monthly mobile phone charge		Model 2: Monthly device installment	
		Coef.	Std. Err.	Coef.	Std. Err.
Mobile Device Distribution Improvement Act (reference: none)		-0.211(***)	0.016	-0.022(**)	0.009
gender (reference: none)		(omitted)		(omitted)	
age (reference: 20-30)	Under 19 years old	-0.375(***)	0.076	-0.016	0.043
	40-59 years old	-0.106(**)	0.044	-0.015	0.025
	over 60 years old	-0.160(**)	0.074	-0.007	0.042
education (reference: Above university graduation)	Below elementary school	-0.993(***)	0.103	-0.257(***)	0.058
	High school or below	-0.700(***)	0.076	-0.281(***)	0.043
occupation (reference: none)		0.061	0.037	-0.005	0.021
income		0.062(***)	0.010	0.017(***)	0.006
mobile phone (reference: none)		1.886(***)	0.071	-0.022	0.040
smartphone (reference: none)		1.549(***)	0.022	0.629(***)	0.012
mobile phone call time		0.006(***)	0.001	-0.002(**)	0.001

Wireless internet time	0.006(***)	0.001	0.000	0.001
welfare discount (reference: none)	-0.119(***)	0.044	0.019	0.025
MVNO (reference: none)	-0.676(***)	0.091	-0.169(***)	0.052
Model Description	Number of obs = 37275		Number of obs = 37282	
	Number of groups = 6696		Number of groups = 6696	
	F(6695, 30565) = 2.99 Prob > F = 0.0000		F(6695, 30572) = 1.69 Prob > F = 0.0000	
	R-sq: within = 0.2123		R-sq: within = 0.1056	
	between = 0.7047		between = 0.3842	
	overall = 0.4731		overall = 0.1959	
	hausman test: Prob>chi2 = 0.000		hausman test: Prob>chi2 = 0.000	
***: p<0.001, **p<0.05				

5 CONCLUSIOS

First, despite the social debate and confusion associated with the effects of the Device Distribution Act, the Device Distribution Act has contributed to the reduction of consumer telecommunication rates and device installments on the financial side. The reason for this is that since the Device Distribution Act went into effect, telecom companies have expanded the choices of mobile phones by launching a variety of low- to mid-priced phones, and consumers increasingly prefer low- to mid-priced phones rather than the latest high-priced phones. Furthermore, after the Device Distribution Act, telecom companies have released a variety of rate plans and rate plan reorganizations and have increased the number of optional contract discount systems (12% -> 20 %) that give a rate discount if consumers select the rate discount (two-year contract) instead of receiving the terminal subsidy, which also had an effect. In other words, even though there are still disagreements as to whether the Device Distribution Act has achieved the policy goal of transparency of the terminal distribution structure or of providing the same benefits for all consumers as originally intended, the Act has produced the effect of reducing telecommunication rates and device installments.

Second, despite the reduction of telecommunication rates and device installments since the Device Distribution Act, it is difficult to describe the Device Distribution Act of 2014 as a successful regulatory policy. First, it is unclear whether subsidies, which are a major cause of the mobile telecom market disruption, have been paid transparently to the majority of consumers without discrimination. Some consumers have benefited from the closed distribution structure and illegal market, rather than renouncing the existing practices that rely on excessive subsidies. Second, telecom companies and dealers continue to compete for market share, paying illegal subsidies despite repeated government warnings and penalties. Even after the policy, illegal subsidies continue through closed distribution channels and transactions. Third, in the implementation process of the Device Distribution Act, the policy failed to secure the compliance and

trust of the policy subjects. Regardless of the effects of telecommunication rates and handset subsidies after the Device Distribution Act went into effect, consumers and markets have constantly criticized the government policy and their distrust of the policy has increased. It is difficult to sustain a policy that does not guarantee compliance by the subjects of the policy. If the credibility of the policy is broken, the possibility of policy failure increases regardless of the actual effect of the policy. In this sense, although the Device Distribution Act was a bold attempt to normalize the telecommunication market and increase the consumer utility (telecommunication rates and terminal charges) by normalizing the distribution structure of terminals, it is an example of a failure to secure compliance with policy subjects, including consumers and markets.

This study aimed to measure the changes in telecommunication rates after the Device Distribution Act went into effect in October 2014. However, the Korea Media Panel data used in this study is composed of broad and general indicators for measuring various usage patterns of media. Thus, the data has a limitation in precisely specifying the accurate effects of telecommunication rates and device installments resulting from the Device Distribution Act. Another limitation of this study is that the surveys were conducted annually in June, and thus it is difficult to completely control other influencing factors during the one-year period.

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