



Overview of Korean ICT statistics and development strategies

July 19, 2010

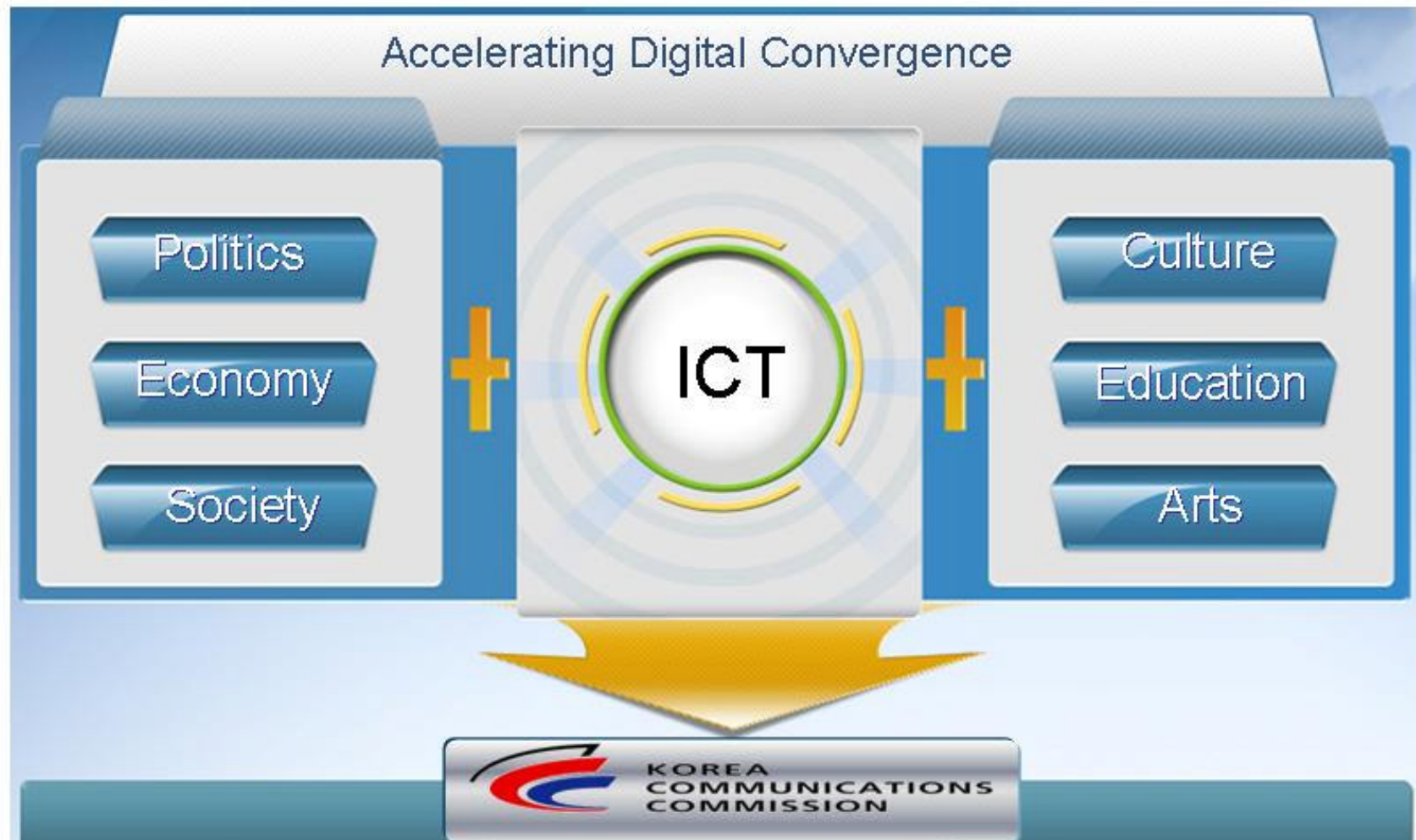


**KOREA
COMMUNICATIONS
COMMISSION**

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- Necessity for a new ICT Index
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I. Introduction –ICT Statistics in the Age of Digital Convergence



- More imperative to evaluate and analyze information society developments for policy-making.
- Indices needed to measure diversification and convergence trends in the information society environment.

I. Introduction – The Concept of ICT and Industry Classification System

OECD

- The definition of information and communications technology (ICT) industry revised in 2007.
- ICT products enable processing and communication of information, including transmission and display of information through electronic means.

KORE

- OECD definition applied in Korea
- Operation of ICT devices and software for information management, as well as all means of utilizing these technologies such as collecting, producing, processing, storing, transmitting and using information.

ICT Industry Classification System in Korea

a

ICT Services	ICT Devices	Software and Computer-related Services
● Basic communications services (Facilities-based)	● Broadcasting devices	● Package software
● Resale telecommunications services	● Telecommunications devices	● Computer-related services
● Value-added telecommunications services	● Information devices	● Digital content development services
● Broadcasting services	● ICT parts	● Embedded software

II. Korea's ICT Policy and Statistics Development

Overall Development

Basic strategy for the development of ICT	1980 - 1993	1994 – 2007	2008 -
<ul style="list-style-type: none"> ➤ Electronics industry promotion via creation of demand. ➤ Modernization of telecom facilities and introduction of competition. 	<ul style="list-style-type: none"> ➤ Conversion of telecom service to public corporation system. ➤ Computerization of the public administration. 	<ul style="list-style-type: none"> ➤ Full swing competition in Telecom services. ➤ National informatization initiatives begin. 	<ul style="list-style-type: none"> ➤ Convergence in broadcasting and telecom. ➤ Convergence in IT and other industries.
<ul style="list-style-type: none"> • Fixed telephony penetration rate 	<ul style="list-style-type: none"> • Mobile telephony penetration rate 	<ul style="list-style-type: none"> • Broadband Internet penetration rate • Internet usage rate • ICT contribution in the national economy • E-commerce transaction rate • DMB subscribers 	<ul style="list-style-type: none"> • IPTV subscribers • Digital TV penetration rate

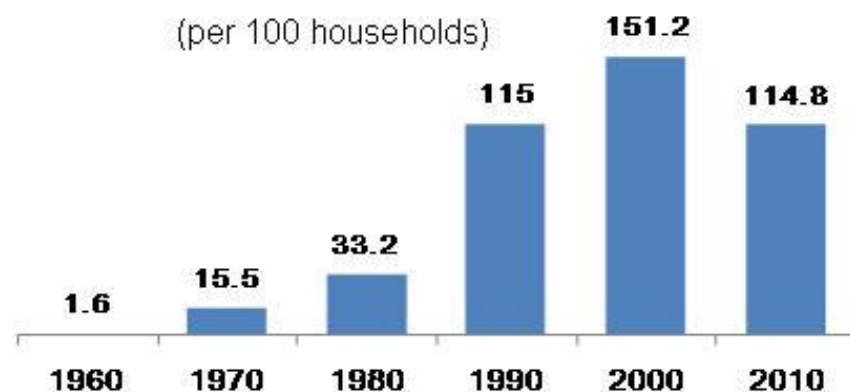
II. Korea's ICT Policy and Statistics Development (1980 - 1993)

1980 ~ 1993

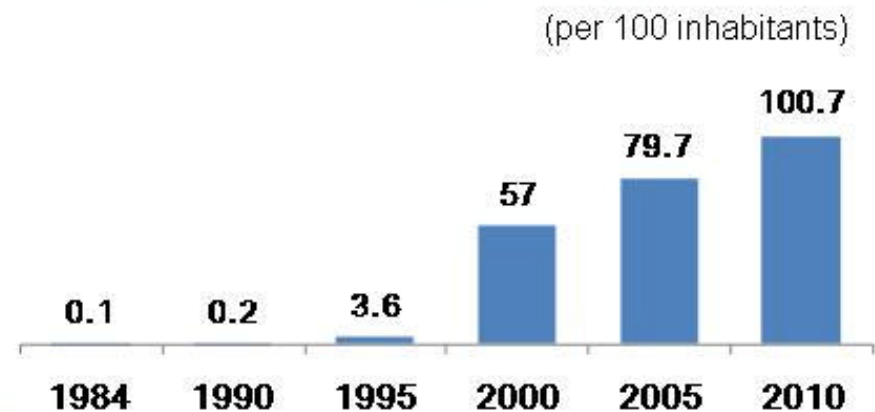
- Conversion of telecom service to public corporation system.
 - Korea Telecom, Korea Data Telecom, Korea Mobile Telecom established.
 - Local calls charges raised to nearly double.
- Domestic full electronic switching system developed.
- Computerization of the public administration.

- One line per household.
- Technological independence in the construction and operation of telecom network

Fixed Telephony Penetration



Mobile Telephony Penetration



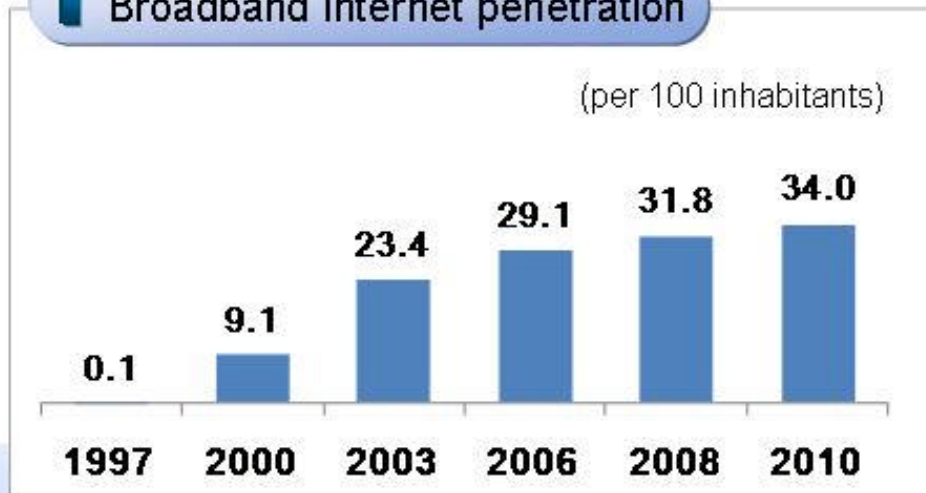
II. Korea's ICT Policy and Statistics Development (1994 - 2007)

1994 ~ 2007

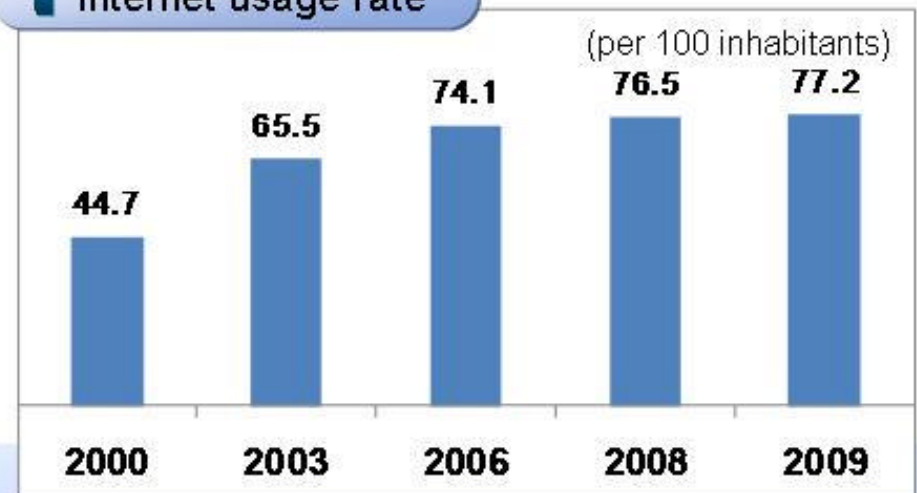
- Full swing competition in Telecom services.
 - Telecom services went into full swing via the duopoly regime.
 - KT privatization completed in 2002.
- National informatization initiatives began.
 - Provided PC training to 10 million people.
- The Ministry of Information and Communication established in 1994.

- World-class telecommunications infrastructure.
- Increased ICT contribution in the National Economy.
- Increased ICT utilization.

Broadband Internet penetration

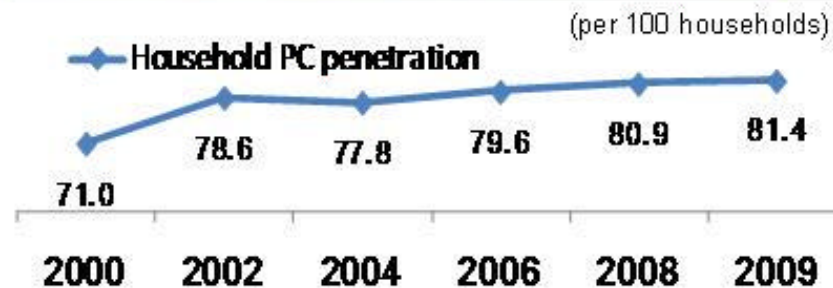


Internet usage rate

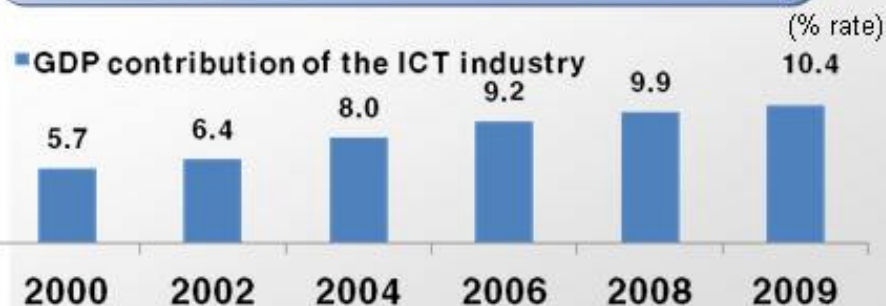


II. Korea's ICT Policy and Statistics Development (1994 - 2007)

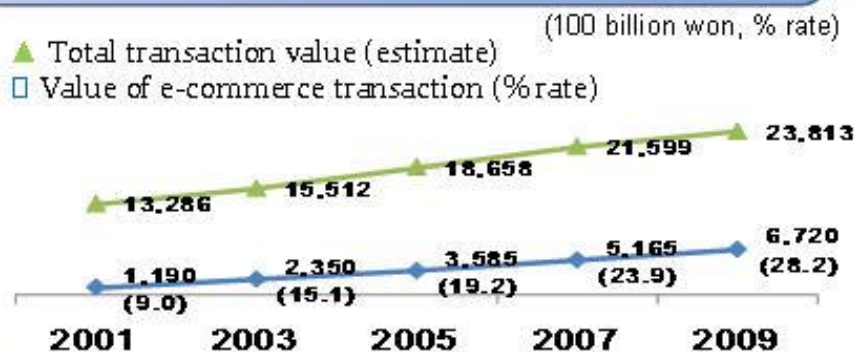
Household PC penetration



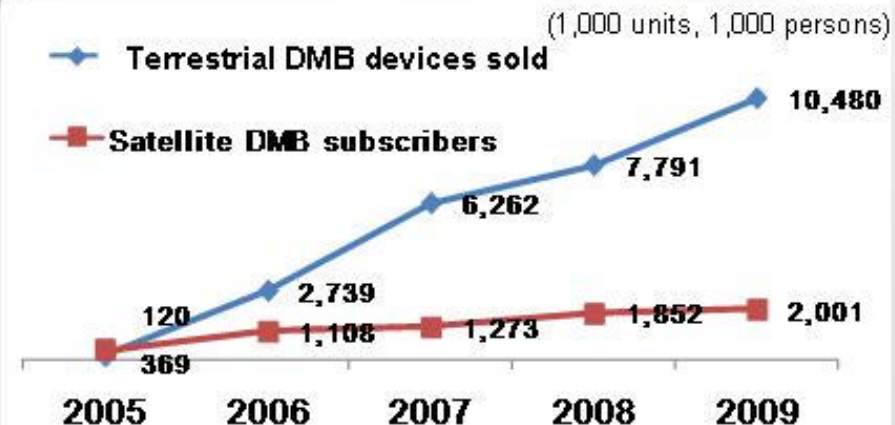
ICT Contribution in the National Economy



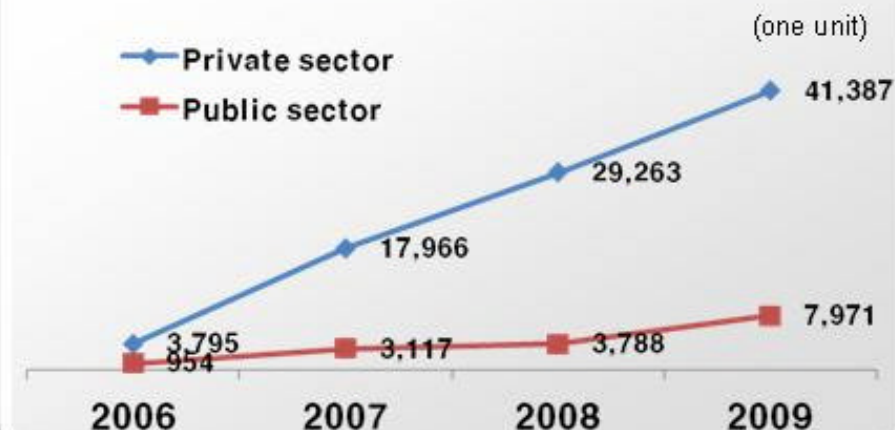
Volume and transaction rate of e-Commerce



DMB Subscribers



Internet Security Servers



II. Korea's ICT Policy and Statistics Development (2008 -)

Since the Lee Administration (2008~)

- ▶ Convergence in broadcasting and telecommunications.
- ▶ Convergence in IT and other industries.



- ▶ **Consolidation of** Broadcasting and telecom regulatory bodies (KCC established).
- ▶ MKE : promotes industrial ICT application.
- ▶ MOPAS : promotes administrative utilization of ICT.

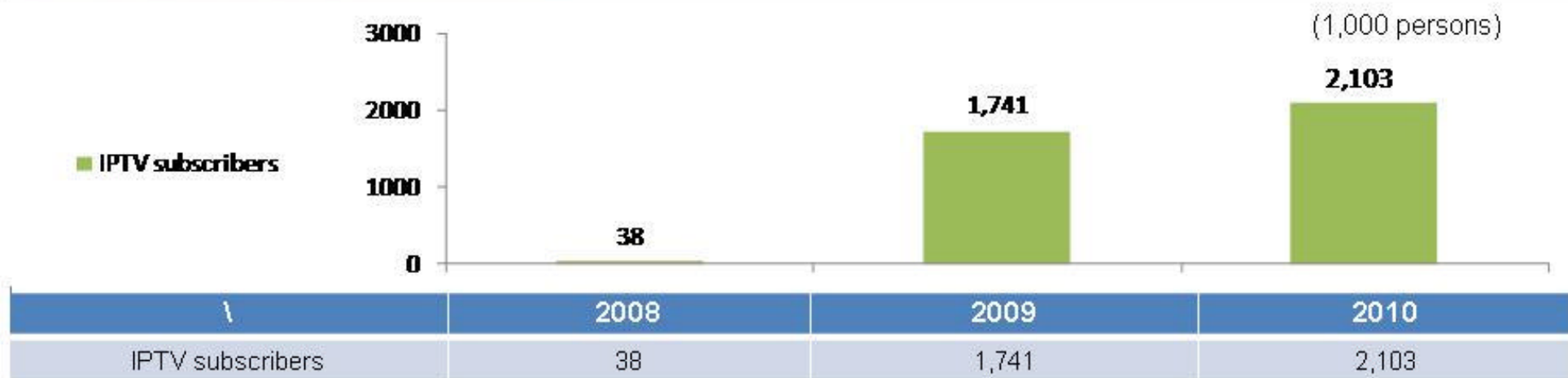
ICT policy changes led to IPTV commercialization and the facilitation of digital switch over, which in turn expanded digital and communications convergence services.

The Roles and Responsibilities of Major Public Institutions

- ▶ Statistics Korea (KOSTAT) : Responsible for national statistics planning, and decision-making and approval concerning the scope of ICT statistics research and statistics research organizations.
- ▶ Bank of Korea (KOBANK) : Develops statistical indicators monitoring the GDP contribution of ICT and ICT's share in national production, consumption, investment and exports and imports.
- ▶ Korea Communications Commission (KCC) : Develops statistical indicators tracking the subscription bases of ICT services and the use of ICT.
- ▶ Ministry of Knowledge Economy (MKE) : Tracks production import and export statistics on ICT devices and parts, SW and computer-related services.
- ▶ Ministry of Public Administration and Security (MOPAS) : Develops statistical indicators on national informatization, digital divide and Internet addiction.

II. Korea's ICT Policy and Statistics Development (2008 -)

IPTV Subscribers



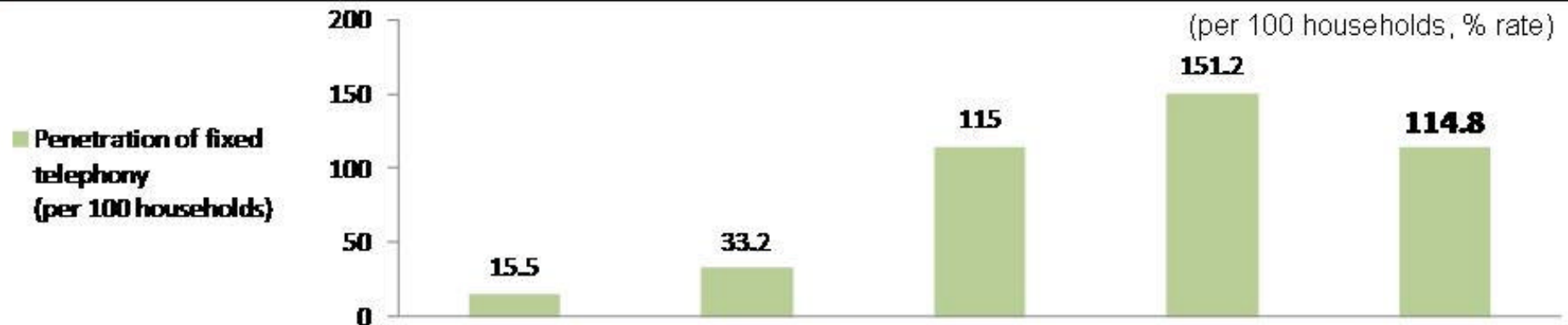
Digital TV Penetration



III. Current ICT Statistics in Korea -

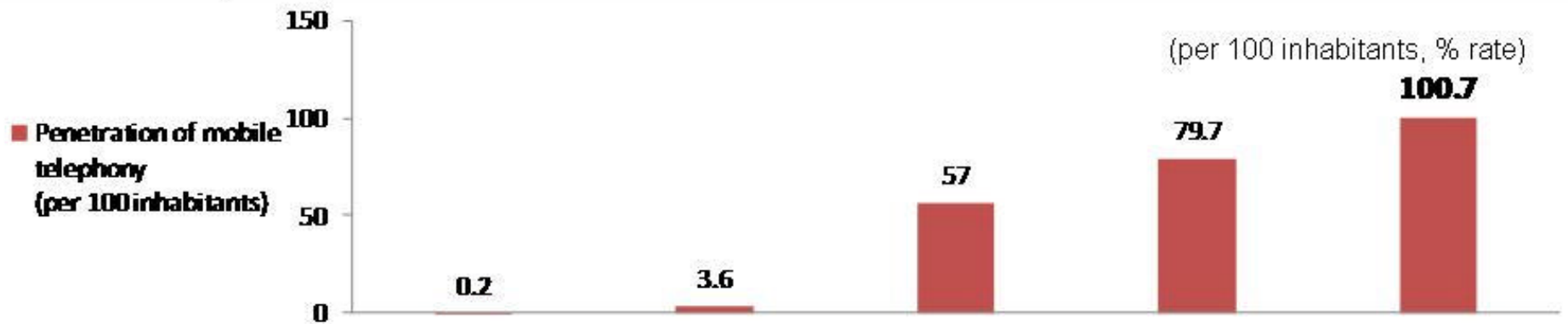
(1) ICT Service Infrastructure - □

● Fixed Telephony (local telephone) Penetration



	1970	1980	1990	2000	2010
Penetration rate (per 100 households)	15.5	33.2	115.0	151.2	114.8

● Mobile Telephony Penetration



	1990	1995	2000	2005	2010
Penetration rate (per 100 inhabitants)	0.2	3.6	57.0	79.7	100.7

III. Current ICT Statistics in Korea -

(1) ICT Service Infrastructure - □

● Broadband Internet Penetration

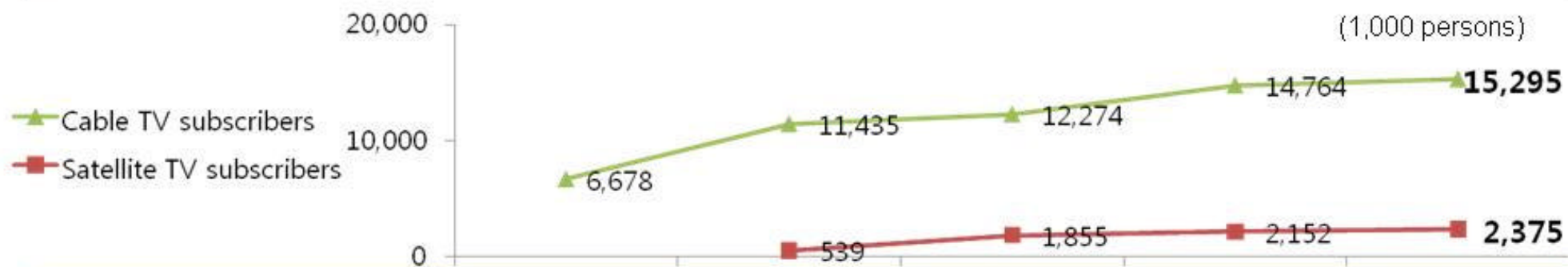


● Share of Internet Telephone Subscribers



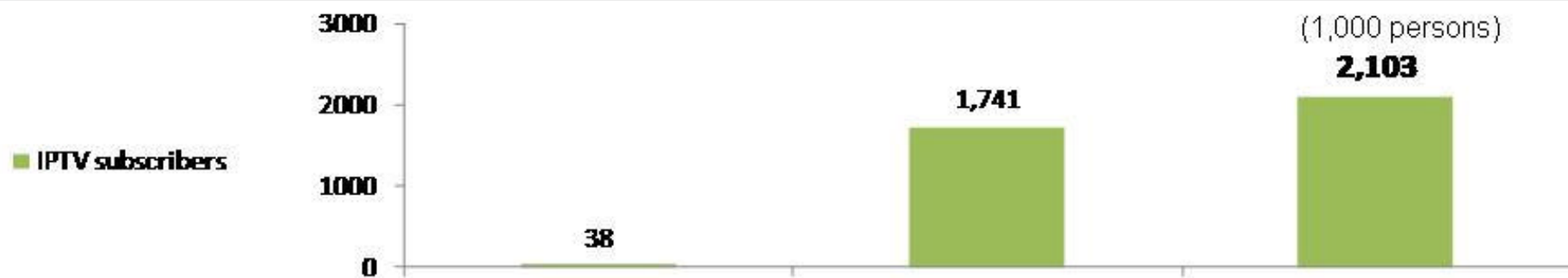
III. Current ICT Statistics in Korea - (1) ICT Service Infrastructure - □

Pay TV Subscribers



\	1997	2002	2005	2007	2009
Cable TV subscribers	6,678	11,435	12,274	14,764	15,295
Satellite TV subscribers	-	539	1,855	2,152	2,375

IPTV Subscribers

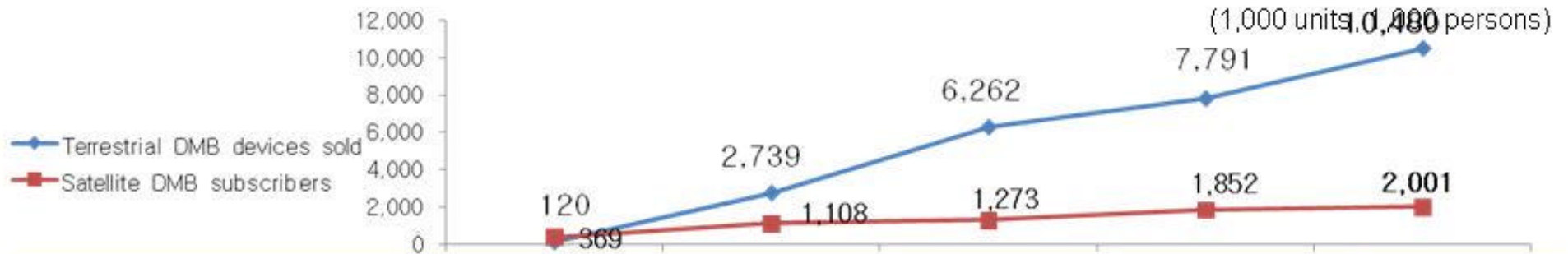


\	2008	2009	2010
IPTV subscribers	38	1,741	2,103

III. Current ICT Statistics in Korea -

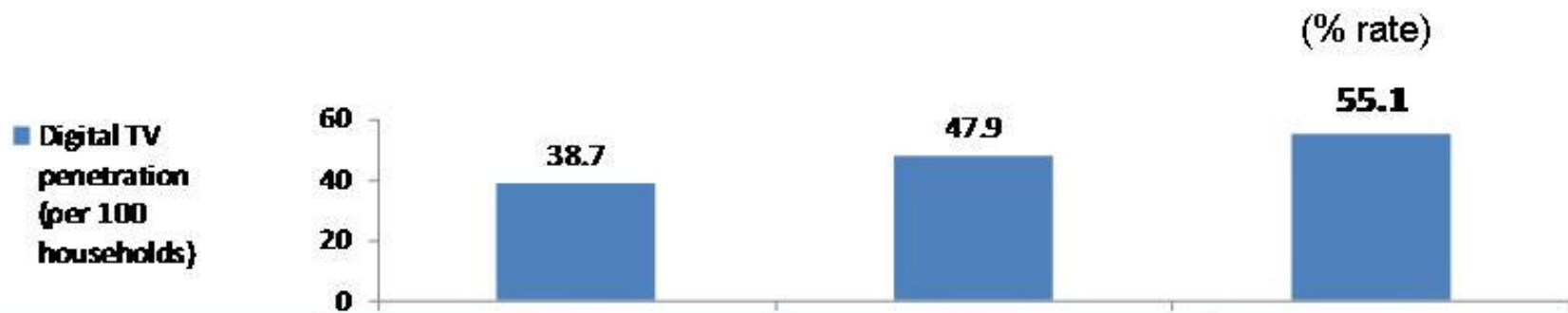
(1) ICT Service Infrastructure - □

DMB Subscribers



	2005	2006	2007	2008	2009
Terrestrial DMB receiving devices sold	120	2,739	6,262	7,791	10,480
Satellite DMB subscribers	369	1,108	1,273	1,852	2,001

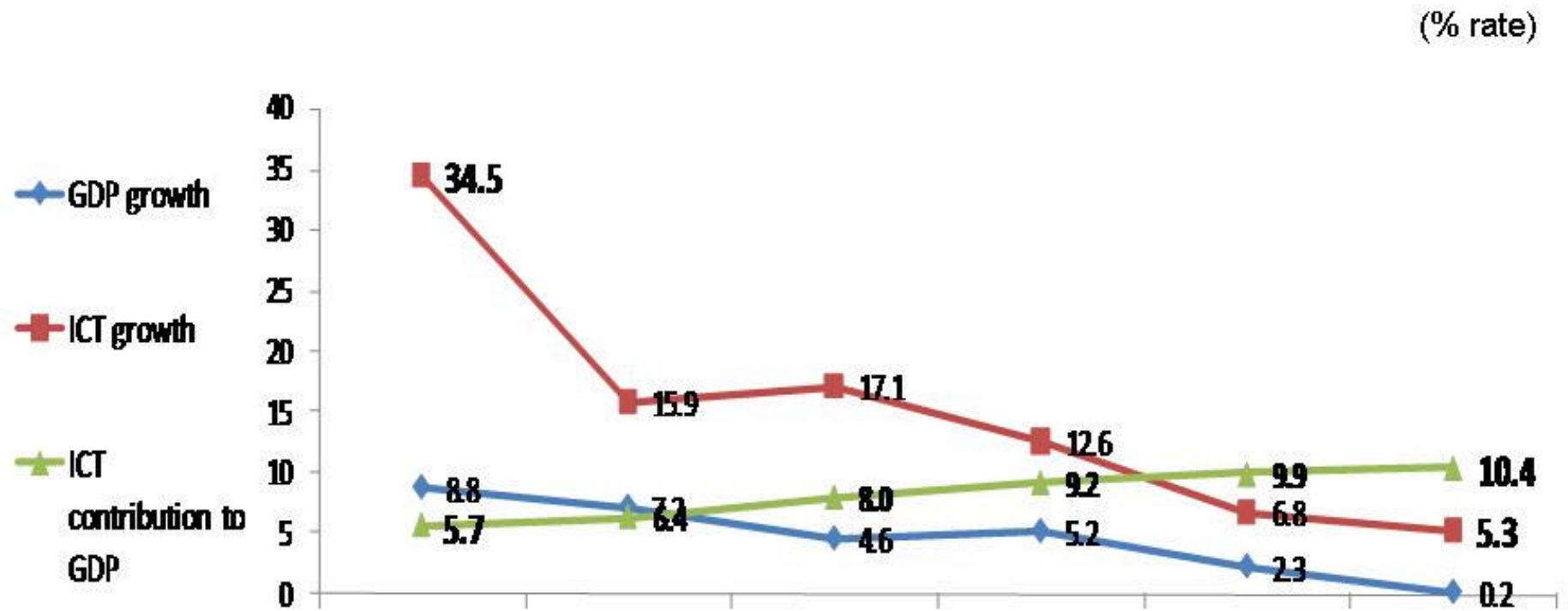
Digital TV Penetration



	2008	2009	2010
Digital TV penetration rate (household penetration)	38.7	47.9	55.1

III. Current ICT Statistics in Korea – (2) ICT Industry - □

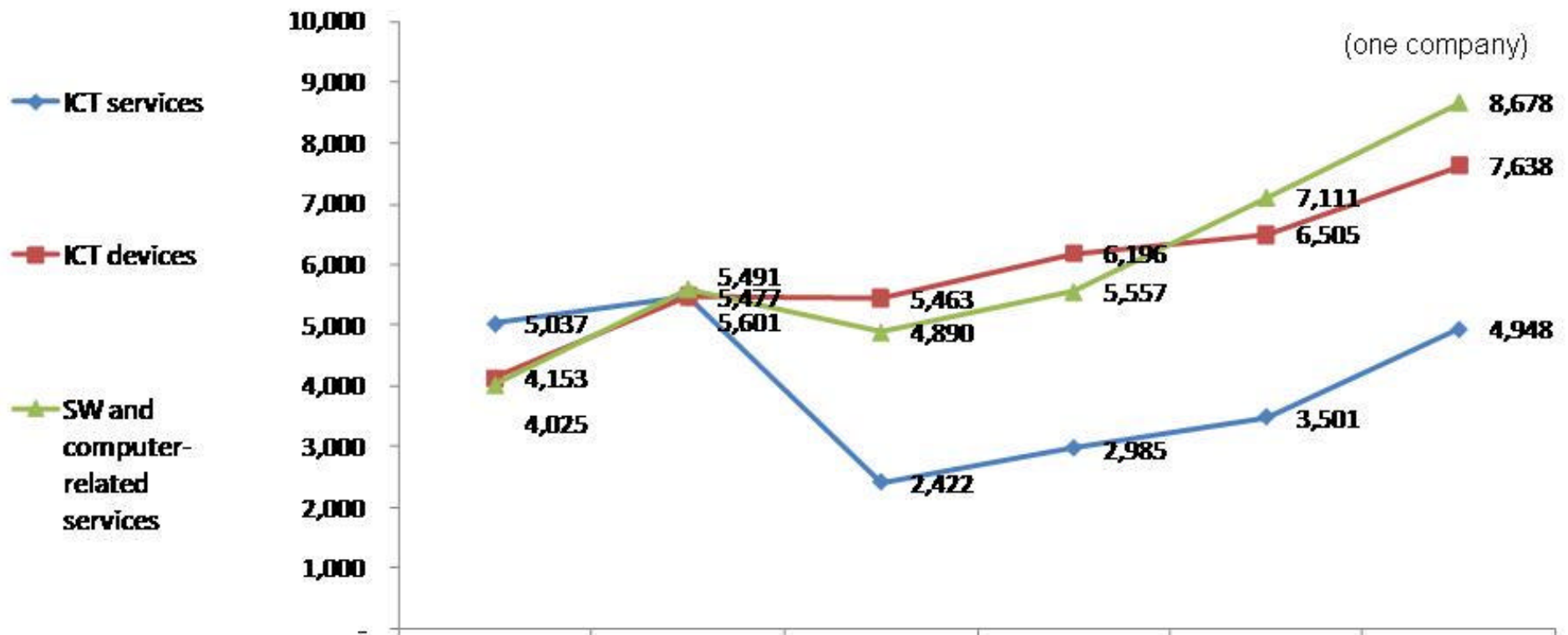
● The GDP Contribution and Growth Rate of the ICT Industry



	2000	2002	2004	2006	2008	2009
GDP growth	8.8	7.2	4.6	5.2	2.3	0.2
ICT growth	34.5	15.9	17.1	12.6	6.8	5.3
ICT contribution to GDP	5.7	6.4	8.0	9.2	9.9	10.4

III. Current ICT Statistics in Korea - (2) ICT Industry - □

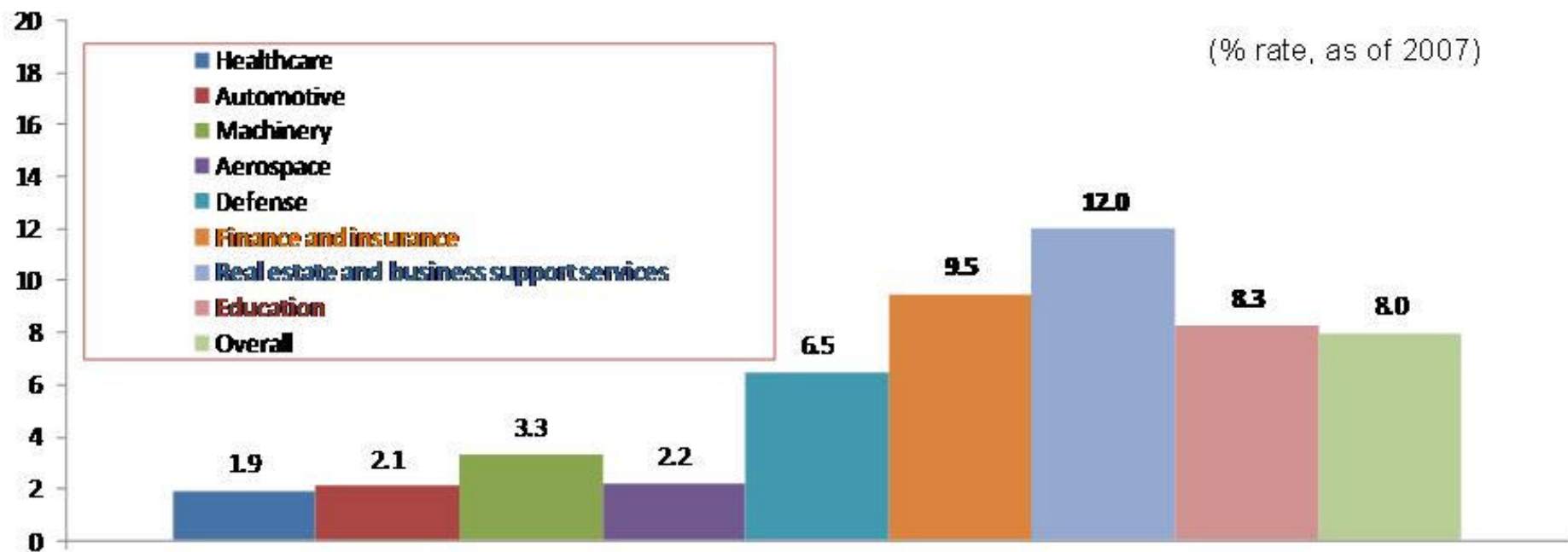
● Number of Companies Engaged in ICT-related Sectors



	2000	2002	2004	2006	2008	2009
ICT services	5,037	5,477	2,422	2,985	3,501	4,948
ICT devices	4,153	5,491	5,463	6,196	6,505	7,638
SW and Computer-related services	4,025	5,601	4,890	5,557	7,111	8,678

III. Current ICT Statistics in Korea - (2) ICT Industry - □

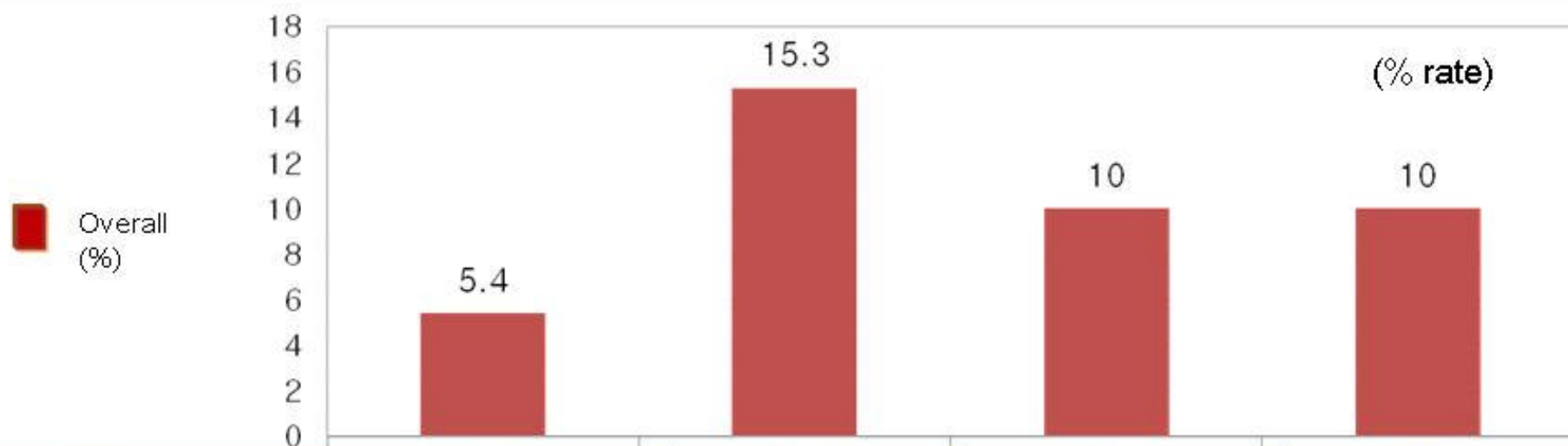
● Input rate of Intermediate IT goods by Industry (Input of intermediate IT goods/ Total input of intermediate goods ×100)



	Healthcare	Automotive	Machinery	Aerospace	Defense	Finance and insurance	Real estate and business support services	Education	Overall
Input rate in 2007 (%)	1.9	2.1	3.3	2.2	6.5	9.5	12.0	8.3	8.0

III. Current ICT Statistics in Korea - (2) ICT Industry - □

IT Investment Rate by Industry (IT investment/Total investment)



Industry	1995	2000	2005	2007
Healthcare	6.2	17.7	14.9	15.0
Automotive	5.6	19.8	15.0	15.5
Machinery	4.2	23.1	20.5	9.4
Aerospace	19.2	35.8	28.4	29.8
Defense	2.7	13.2	8.1	9.6
Finance and insurance	38.1	68.0	68.9	67.7
Real estate and business support services	12.0	34.6	14.4	14.9
Education	20.8	39.3	30.6	31.9
Overall	5.4	15.3	10.0	10.0

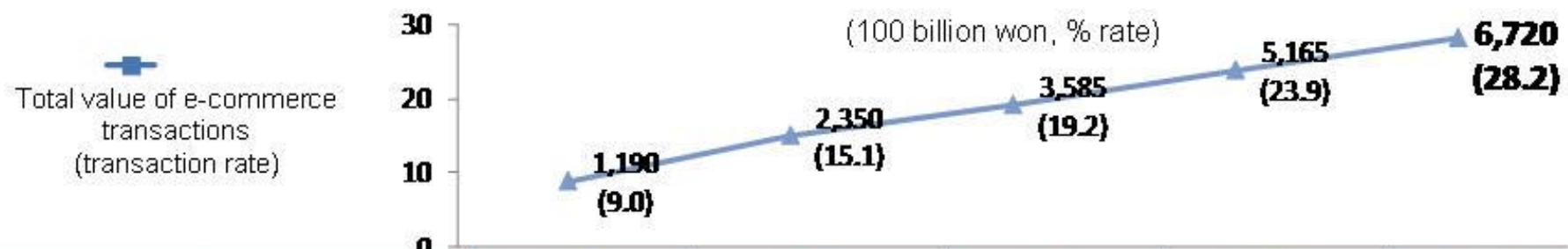
III. Current ICT Statistics in Korea - (3) ICT Use - □

Internet Users and Internet Usage Rate (per 100 inhabitants aged three and older)

(1,000 persons, % rate)



Volume and Transactions rate of e-Commerce

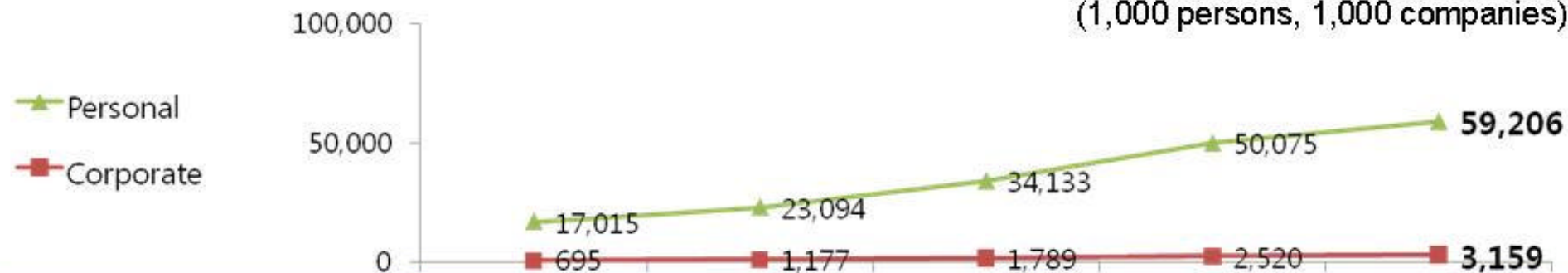


	2001	2003	2005	2007	2009
Total transactions value (estimate)	13,286	15,512	18,658	21,599	23,813
Value of e-commerce transactions	1,190	2,350	3,585	5,165	6,720
Transaction rate of e-Commerce	9.0	15.1	19.2	23.9	28.2

III. Current ICT Statistics in Korea - (3) ICT Use - □

Internet Banking Customers

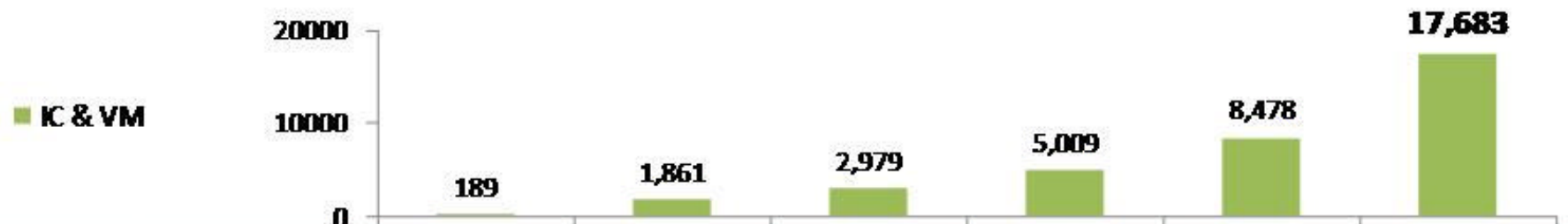
(1,000 persons, 1,000 companies)



\	2002	2004	2006	2008	2009
Personal customers	17,015	23,094	34,133	50,075	59,206
Corporate customers	695	1,177	1,789	2,520	3,159

Mobile Banking Customers

(1,000 persons)

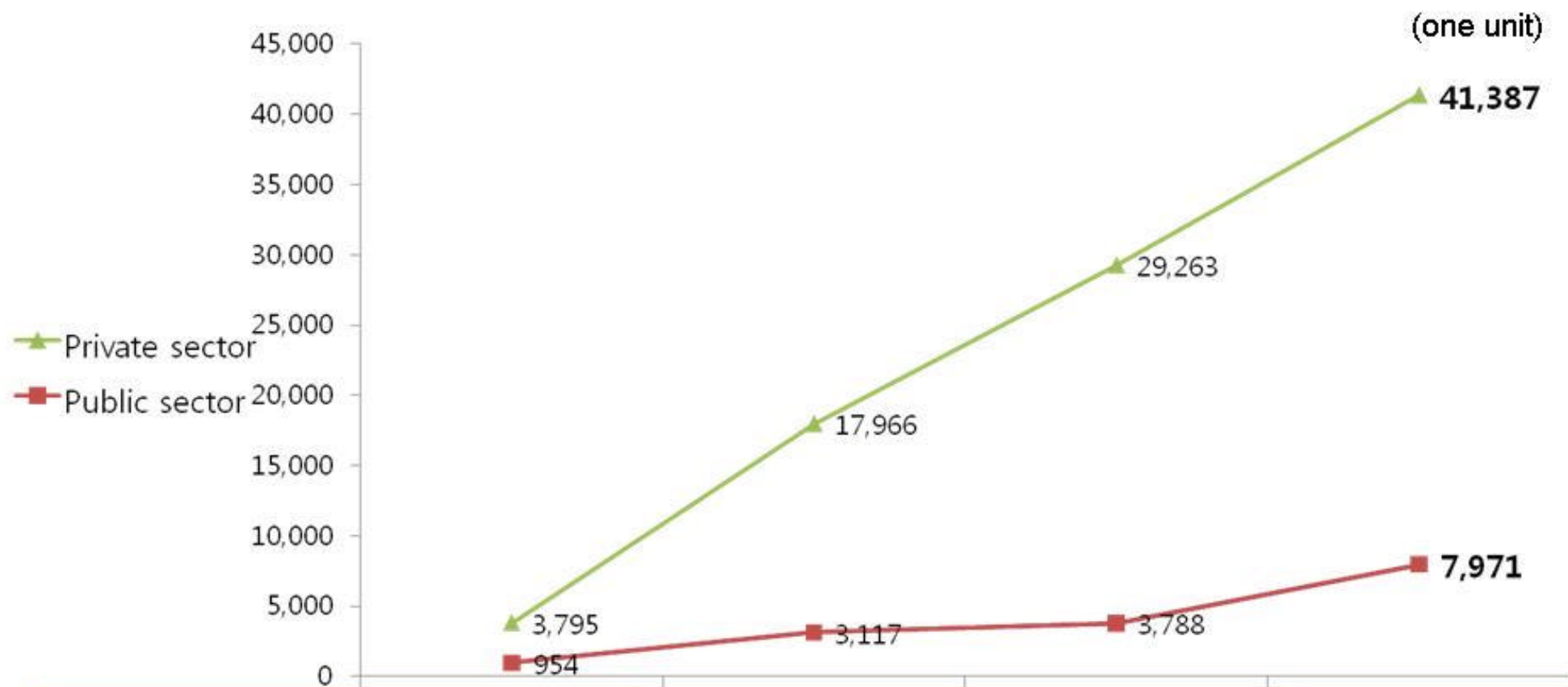


\	2003	2005	2006	2007	2008	2009
IC chip-based banking (M, K Bank on)	189	1,861	2,979	4,412	4,694	11,155
VM banking (Virtual Machine)	-	-	-	597	3,784	6,528

III. Current ICT Statistics in Korea -

(4) Information Security and Digital Divide - □

Internet Security Servers

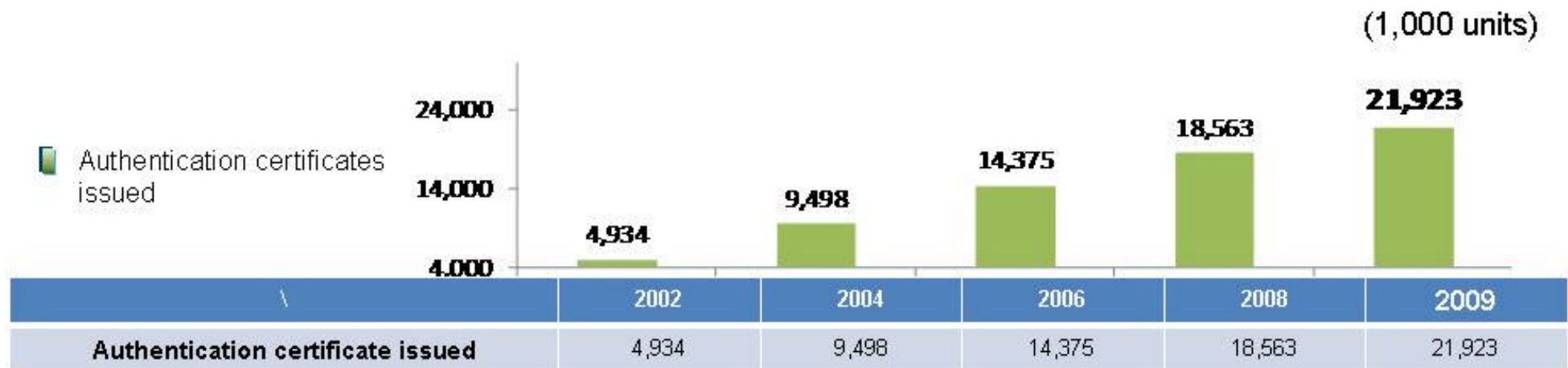


		2006	2007	2008	2009
Internet security servers	Private sector	3,795	17,966	29,263	41,387
	Public sector	954	3,117	3,788	7,971
	Total	4,749	21,083	33,051	49,358

III. Current ICT Statistics in Korea -

(4) Information Security and Digital Divide - □

● Authentication Certificate Statistics



● Bot Infection Rate

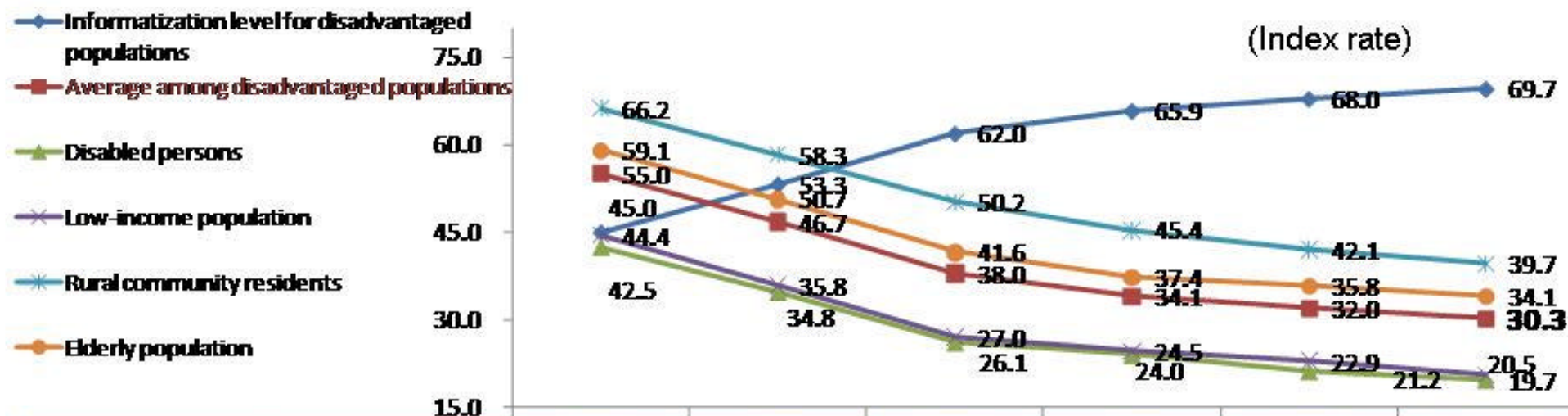


III. Current ICT Statistics in Korea -

(4) Information Security and Digital Divide - □

Digital Divide Index for Disadvantaged Population

- Digital divide index for disadvantaged sections of society = Informatization level for general population (100) - Informatization level for disadvantaged population vs general population



	2004	2005	2006	2007	2008	2009
The informatization level for disadvantaged population	45.0	53.3	62.0	65.9	68.0	69.7
Digital divide index for disadvantaged population						
Average	55.0	46.7	38.0	34.1	32.0	30.3
Disabled persons	42.5	34.8	26.1	24.0	21.2	19.7
Low-income population	44.4	35.8	27.0	24.5	22.9	20.5
Rural community residents	66.2	58.3	50.2	45.4	42.1	39.7
Elderly population	59.1	50.7	41.6	37.4	35.8	34.1

* The informatization level for disadvantaged populations is based on an index measuring information access, information capacity and information use through indicators such as internet use, computer use and information device penetration.

IV. Necessity for a new ICT Index

Necessity

◆ Need to consolidated index both broadcasting and telecom sectors

- In the telecom sector, there are various international indices that measure level of development and make international comparisons.
- But, there is no index that evaluates the converged broadcasting and telecom environment and the level of service utilization.
- With the accelerated convergence between broadcasting and telecom, there is a growing need to develop a new ICT Index to represents both sectors.

◆ Need to measure the level of broadcasting and telecom services utilization by individual companies

- Just like a mobile office system, using broadcasting and telecom services to seek work innovation and service improvement.
- A new index that diagnoses and assesses the level of broadcasting and telecom services utilization in each industry and company will help facilitate further utilization.

IV. Necessity for a new ICT Index

Key challenges

◆ Consolidated Communications Index

- Absence of a common international index measuring the development of broadcasting, due to the public interest orientation of this field and cultural diversity.
- Difficulty of quantitative measurement and international comparison, stemming from the special characteristics of broadcasting.

◆ Communications Index on Service Utilization

- Since converged services are still new in the market, no precedent exists in terms of indices allowing detailed measurement of performance in this sector.
- Cooperation on the part of companies in a forward-looking manner is critical to ensuring the usefulness and effectiveness of the converged service index.

Future Outlook

- Despite a growing recognition for the necessity and ongoing basic researches, it could take a while to develop the index.

V. Proposals for Improvement

ITU – ICT Development Index

- **The ITU-ICT Development Index needs to include new sub-indices for measuring ICT utilization capacity.**
 - Sub-indices of the ITU-ICT development index, measuring capacity for ICT use, are too simple and rudimentary:
 - ➔ (1) Adult literacy rate, (2) Secondary enrollment ratio, (3) Tertiary enrollment ratio.
 - Additional items such as 'e-Commerce adoption rate', 'Electronic signature adoption rate', 'Information security infrastructure' could improve the index's effectiveness in measuring capacity for ICT utilization.
- **Need to change the fixed broadband internet subscriber index from a per-population rate to a per-household rate.**
 - ➔ Given that broadband internet access is a household service, rather than a personal service, basing the index on the number of households rather than individual subscribers is more appropriate.
- **Need to re-adjust the base value of the mobile subscription rate (including prepaid subscribers) from 150 to 100.**
 - ➔ The base value needs to be changed from 150 to 100 to given the fact that in some countries, even when their rate of mobile subscription is 100% or more, there is no prepaid calling customers, either due to the local tariff system or user preferences.

Thank you for your attention.

