South Korea

1. Country facts

1.1 Political background

Located in North East Asia, in the southern half of the Korean peninsula and bordering the Sea of Japan and the Yellow Sea, the Republic of Korea belongs to the so-called “Four Tigers” (i.e., Hong Kong, China, Singapore and Taiwan, China). Its capital is Seoul.

As a consequence of WW2, the Korean Peninsula was split on August 15, 1945 with the northern half dominated by Communists and the southern portion becoming Western oriented. The armistice signed after the Korean War (1950-53) split the peninsula along a demilitarized zone at about the 38th parallel of latitude.

After two military coups and several decades of authoritarian rule, South Korea is now a democracy. The constitution of the Sixth Republic[1], promulgated in 1987, provides a directly elected President, who serves a single five-year term and appoints the Prime Minister and the cabinet. There is also a unicameral National Assembly (Parliament), elected at four-year intervals. In December 1997, at his fourth attempt, the veteran democrat, KIM Dae-jung, narrowly won the presidency. His successor, ROH Moo-hyun was elected on December 20, 2002 to take office in February 2003. The last parliamentary election was held in April 2000. The next one will be held in April 2004.

In its first two years in office, KIM Dae-jung's administration vigorously implemented economic reforms, which enabled the economy to recover swiftly from the 1997-98 crisis. KIM Dae-jung followed also an opening policy towards North Korea and in June 2000, a historic first south-north summit took place between himself and the North’s leader KIM Jung-il. The fact that ROH Moo-hyun won last December’s presidential election, augurs well for a continuation of the KIM Dae-jung administration's "sunshine policy" of outreach to the North.

1.2 Demography

- **Population :** 48.3 million (July 2002)
- **Density :** 1,271 inhabitants/ km^2. (CH= 176 inhabitants/ km^2)

About 80 % of the country’s population lives in urban areas. The six most populated South Korean cities are : Seoul with 10.78 million, Busan with 3.8 million, Daegu with 2.26 million, Inchon with 2.2 million, Kwangju with 1.24 million and Daejin with 1.18 million inhabitants.

[1] Its legal system combines elements of continental European civil law systems, Anglo-American law, and Chinese classical thought.

The South Korean Republic comprises 9 provinces ("do") and 7 metropolitan cities ("gwangyok").

1.3 Country specificities

- **Economic boom and protectionism**

One astonishing particularity of South Korea is that the country developed itself in only 30 years, in spite of being one of the poorest countries in the world in the '60. This fast development is particularly due to massive governmental intervention in industrial, labor and credit markets. In the '60, the scarcity of private capital, the lack of viable productive technologies, and the fragmented nature of the market were the reasons to make such involvement almost inevitable. Moving aggressively in the '60 to a policy of export-led growth, the government tried to support development by directing scarce capital to what it believed to be the highest productivity sectors, by protecting domestic industries from foreign competition, and by encouraging cooperation between firms to improve production capacities. Under President PARK Chung-hee, development was pursued through an authoritarian capitalism, in which enterprises were privately owned but the management was shared between the government and its owners. This successful development model lost effectiveness in the 80s at a time of recession. Long-term problems of inefficiency, moral hazard and non-transparency had also become apparent. Tight relationships between the government and the huge conglomerates, the *Chaebols,* led to corruption, to the extent which was revealed in damaging political scandals in the mid-90s.

The protectionist policy has been adapted to the WTO's agreement on basic telecommunications services. Foreign equity in ownership has been allowed up to 49% in KT since April 2001 and up to 49% for all other telcos since July 1999. These reforms were also the consequences of 1997-1998's worst economic crisis ever experienced by an OECD country. The main aim of reforms at that time was to move Korea from a highly interventionist and authoritarian model of economic development to a market oriented and open model, based on values of consumer choice, democracy, and law.

- **Chaebols**

Chaebols are a Korean specificity (which can also be found in Japan). They consist of multi-company business groups operating in different markets under common entrepreneurial and financial control. Although each company is legally independent, the *Chaebols* are characterized by high levels of ownership by the founding family and by member companies. The second characteristic of *Chaebols* is their diversification across industries. In 1996, the top thirty groups had an average of 22 companies operating in 19 different industries. *Chaebol*-affiliated companies are most prevalent in heavy manufacturing industries that require large-scale investments, such as cars, electronics and machinery. Third, *Chaebols* are characterized by their high level of debts, a result of their diversification into many business lines and their reliance on bank loans. These high debt ratios resulted in large financial burdens, making the *Chaebols* highly vulnerable to slowdowns in demand. Despite policies aimed at reducing concentration since the 80s, the share of the top 30 *Chaebols* in the national economy has remained stable since early 80s, at approximately 35%.

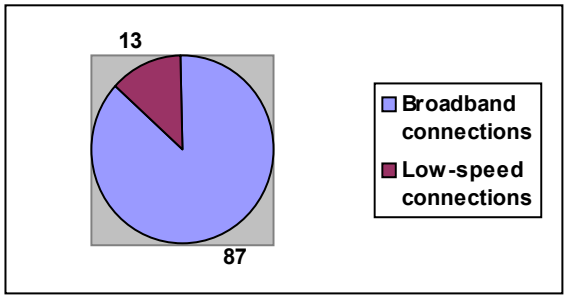
1.4 Telecom consumption habits

Fixed voice telephony	1998	2000	2001	2002
Main lines per 100 inhabitants	43.27	46.37	48.57	n.d.

Mobile telephony	1998	2000	2001	2002
Mobile telephony subscribers per 100 inhabitants	30.19	56.69	62.08	65

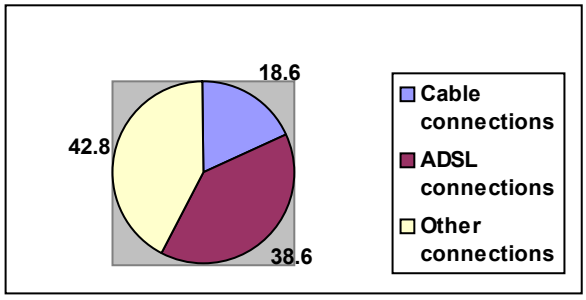
Internet	1998	2000	2001	2002
Personnel computers per 100 inhabitants	17.26	24.48	25.65	n.d.
Internet users per 100 inhabitants (at home, office, etc.)	6.83	41.4	52.11	56.6
Average surfing time per month (hours)	n.d.	n.d.	19.2 (07.01)	16 (06.02)

Figure 1: Broadband and low-speed Internet connections in 2001 (% of users online at home)



Source: the Current state of Play, Australia's scorecard, National Office for Information Economy Australia, 2002

Figure 2: ADSL and cable Internet connections in April 2001 (% out of all Internet connections)



Source: S.H.Kyong, Asian Internet Wave, Fukuoka, May 15-16 2001 Internet in Korea: current status and trends , data retrieved from www. netvalue.com

2. Brief telecom history

2.1 Historical background and liberalization process

The telecom liberalization in South Korea took place in several steps:

1961: Beginning of the 5-year telecommunications plan. Its main objectives were to raise the telephone penetration rate, which was extremely low and to increase quality of service.

1982: Creation of the Korea Telecommunications Authority (now KT Corp) as a 100% government-owned public corporation. The Ministry of Communications is given the responsibility for the telecommunications sector. In March: DACOM is created by a consortium of public and private interests to provide data communication (value-added services) by leasing lines from the Korea Telecommunications Authority.

1984: May: Korea Mobile Telecommunications (KMT), KT's mobile subsidiary, began operations.

1990 : Competition for value added network services introduced.
Beginning of a duopoly for international telephony services (KT + DACOM[2]). This began a process of market differentiation between international, long-distance and local telephony services that is still used now, for example in licensing.

1994 : KT's mobile subsidiary KMT is privatized and becomes SK Telecom (SKT)[3].
Beginning of duopoly for mobile services (SKT, Shinsegi Telecom).
December: The Ministry of Communications (MOC) becomes the Ministry of Information and Communication (MIC).

1995 : Decision to introduce competition in the national long distance market (KT + DACOM).

1996 : New service providers are licensed in particular in the following areas: Leased line facility rental (2), international telephony (1, Onse enters international market as 3rd service provider).

1997 : New service providers licensed in particular in the following areas : Local telephony services (1, Hanaro), leased line services (2) and long distance (1, Onse).

MIC introduces changes to stimulate competition in anticipation of the WTO Basic Telecommunications Agreement that became effective in 1998. Actions included:

[2] DACOM began service on December 3, 1991.
[3] KT has maintained a 9.27% share holding in SKT

The granting of a global mobile personal communication by satellite; the increase in the number of service providers in five service areas thus introducing competition in all basic telecommunication service markets; the revision of the classification of telcos and the introduction of a category of « special telecommunication service providers » (voice resale, Internet telephone).

New KT's mobile subsidiary Korea Telecom Freetel (KTF) enters the market.
November: Introduction of carrier pre-selection (CPS) for domestic long-distance and international calls.

1998 September: the maximum for foreign ownership is increased to 49% for special service providers and the government planed to lift the limitation by 2001.

1999: May: 13% stake in KT is sold, thus raising foreign ownership in the company from 5% to 19.1%

July: MIC raises the foreign-ownership maximum for facility-based carriers from 33% to 49%.

2000 1 January: Introduction of universal service and of local loop unbundling (LLU).

2002 May: full privatization of KT which becomes KT Corp.

2.2 Incumbent operator

Listed on the Korea and New York stock exchanges, KT Corp (KT) was the state-owned telecom monopoly in Korea, and is still the principal operator in the country, providing telephone services, data communications, Internet and satellite services. In 1994, KMT, KT's mobile subsidiary was sold to SK and became SK Telecom. Since 1997, KT has been providing mobile telephone services through KT Freetel (KTF), which absorbed competing mobile operator Telecom M.com in May 2001. The company's name was changed from Korea Telecom Corp to KT Corp in March 2002. It was fully privatized in May 2002, when the government sold its last 28% share. The 15% limitation on individual shareholding was lifted in August 2002, and the aggregate foreign ownership limit was raised to 49%.

KT was established on December 10, 1981 under the name Korea Telecommunications Authority, in accordance with the Korea Telecommunications Authority Law.

In the early discussion on telecom reform, KT fought hard for the preservation of its monopoly. KT announced many arguments, including the maintenance of universal service, the waste of resources through duplicative investment, the threat to the R&D system binding public corporations, government-sponsored think tank and private companies, and the promotion of national champions. The fact that the majority of senior people at KT were from former MOC made the implementation of the reform tricky. The implementation of several reform agendas were delayed after facing substantial resistance from the management and trade union of KT.

Privatization of KT has a long history. In the late 1980s the government discussed the possibility of privatization, which was expected to yield positive effects on the management of KT. The government also viewed privatization as a way to raise government revenue and as a result sold 49% of KT to the public. Fluctuations of stock market since the peak of 1989 caused the delay of privatization of KT.

With the demise of monopoly and the introduction of competition, the status of KT as a public corporation and the increasingly strict regulations became a burden for KT. With a view to enhance KT's efficiency in this competitive environment, the government pursued privatization. Since 1993, KT's equities had begun to be sold to the public under the long-term privatization plan of KT. The original plan was to sell 49% of KT's shares to the public so that the government continued to own the majority of the company's shares. However, things turned out differently. 10% of KT shares were sold in 1993, and another 10% and 8.8% were sold in 1994 and 1996 respectively. As of July 1997, the Government held a 71.2 % stake in KT. KT was finally fully privatized in May 2002.

Table 1: KT profile

Name	**KT Corp**		
Services	**Full service: fixed, mobile and Internet**		
Ownership % (Nov. 2002)	Foreign (Microsoft, Merrill Lynch, etc.): 40.2% Treasury: 29.6% Domestic (SKT, LG Electronics, Daelim Indust.): 24.5%, ESOA 5.7%		
Market share %	**Subscribers**	**Call minutes**	**Revenues**
Fixed lines			
Subscriber line, July 2002[1]	96%	N/A	n.d.
Long-distance, June 2002[1]	N/A	n.d.	85%
International, June 2002[1]	N/A	n.d.	67.2%
Mobile (KTF), November 2002[1]	32.4%	n.d.	n.d.
Internet			
ADSL, November 2002[2]	45.8%	N/A	n.d.

[1] Telecoms country Report: South Korea, World Market Research Center, 17 January 2003
[2] Korea leads broadband Internet service market, YANG Sung-jin, Korea Herald, November 13, 2002

2.3 Main competing operators

2.3.1 Fixed voice telephony

- **Local telephony market**

Korea's local telephony market is currently duopolistic, with KT and Hanaro Telecom (entry in April 1999) competing with each other. However, market competition is almost absent, as KT dominates most segments.

As of July 2002, KT accounted for 96% of the market share, based on the number of subscribers, and Hanaro Telecom a poor 4%. This is in fact a monopolistic situation. This is because Hanaro's strategy and goals focus on the delivery of Internet services such as ADSL and cable modem services rather than on local telephone service in competition with KT. Even though Hanaro acquired the license in the local service market, local telephony is only a component of ADSL bundling service.

The ultimate reason behind Hanaro's negligent market share is that securing a subscriber base takes much time and requires high investment costs. In this respect, MIC introduced a new provision in the Telecommunications Business Act (TBA) in January 2001 setting forth the mandatory access to subscription line of facility-based service providers to promote competition in the market. In addition, MIC laid a foundation under the TBA for providing number portability under the TBA, which will start in 2003.

- **Domestic long-distance telephony market**

Korea's domestic long distance service sector was transformed from KT's monopolistic structure to a competitive structure when DACOM and Onse Telecom launched their operations in 1996 and December 1999 respectively. This produced positive results on behalf of the end-users, bringing down prices and improving the quality of the calls.

However, the demand for domestic long distance service has been steadily decreasing, as users are increasingly shifting toward mobile phone services. This is because the price competitiveness of domestic long distance services is not great enough to outweigh the convenience offered by mobile telephony service.

As of June 2002, KT had the largest market share based on revenue with 85%, followed by DACOM with about 11% and Onse Telecom with about 4%. Since 1999, however, KT's share has been declining in favor of DACOM.

This evolution seems to be the result of the carrier pre-selection feature introduced in November 1997 and of differentiation strategies which prompted the shift in consumer demand.

- **International telephony market**

This is the market in which competition is most intense among all fixed telecommunications service markets. In addition to KT, DACOM and Onse Telecom, more than 50 special service providers such as voice resale and web-phone entered the market after 1998, which lead to further accelerated price drops and other forms of market competition.

Due to the growth of DACOM and Onse Telecom, KT's market share declines constantly. As of June 2002, KT's market share reached about 67%, followed by DACOM with about 23% and Onse with about 10%, based on revenue.

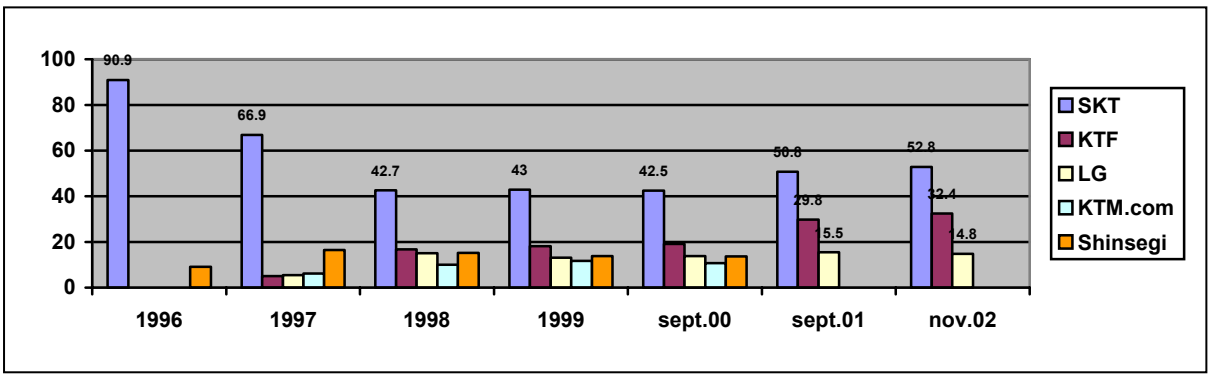
2.3.2 Mobile telephony

The mobile telephony market has been growing steadily since its liberalization in 1996, but with a penetration rate of about 61% as of 2001, we can deem that the market is approaching its maturity stage. 3 competitors are currently in this market:

- SK Telecom (cellular service provider): Which acquired KT's former mobile subsidiary, Korea Mobile Telecom in 1994. In 2001 SKT merged with the mobile operator Shinsegi Telecom[4].
- KT Freetel (KTF) (PCS provider): New mobile subsidiary of KT which merged with Korea Telecom M.com (KTM) in May 2001.
- LG Telecom (PCS provider).

In recent years KTF has been losing ground in South Korea's mobile market to SKT. The bitter rivalry between the two intensified in 2002 when market leader SKT pulled further away from its rivals and consolidated its position as the country's most popular telco. Indeed, in November 2002 its market was of 52.8% up from 50.8 % in September 2001. During the same period KTF's market shares grew from 29.8% to 32.4%, leaving LG with 14.8%.

Figure 3: Evolution of Korean Mobile market share



Source: National statistical Office, adopted from www.american.edu/carmel/jl2216a/T1.html and World Market Research Center, Telecoms country report: South Korea, January 17, 2003

[4] SK's acquisition of Shinsegi Telecom was given a conditional approval by the Korea Fair Trade Commission (KFTC) in April 2001. The conditions were lowering of market share to below 50% by June 2001 and limiting purchase of mobile handset by SK Teletek to 1.2 million units/year by 2005

Finally we can notice that wherever you are in Korea you'll have mobile networks. Indeed telcos made big investments even in areas with poor population densities.

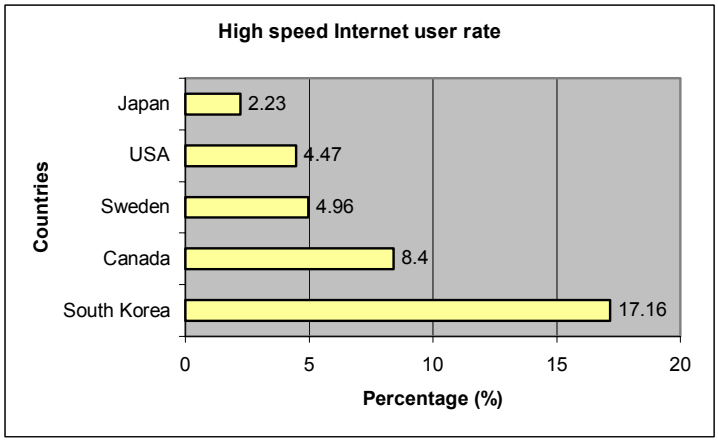
2.3.3 Internet

- **Broadband**

Korea is leading the global broadband access in terms of user base and technology. In October 2002, the number of high-speed Internet subscribers surpassed 10 million. This is an incredible result in just four years since the formal high-speed service was launched (in June 1998, Korea Thrunet Corp., a broadband carrier implemented the so-called cable-based online access service[5]). A significant growth momentum appeared in April 1999 when Hanaro Telecom Inc., the country's second largest fixed-line and broadband carrier introduced its ADSL service. KT followed in June 1999. In November 2002, KT controlled 45.6% of the ADSL market, Hanaro 28.6% and Thrunet 13.1%.

MIC claims that about 98% of local administrative districts have high-speed Internet access, largely because ADSL utilizes existing copper-wire telephone lines and tends to spread fast among local residents. As of end-December 2001, the high-speed Internet user rate in Korea was 17.16%, the largest in the world followed by Canada (8.4%), Sweden (4.96%), the USA (4.47%) and Japan (2.23%).[6]

Figure 4: High speed Internet user rate, December 2001



Source: MIC in Korea Herald, 13 November 2002

Major factors which enabled such a phenomenal growth were: First, geographical advantages that facilitated expansion of the high-speed Internet service[7], second, the lowering of tariffs due to regulatory intervention, and third, efforts to increase the number of

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5 Cable Internet represents currently 27% of high-speed Internet subscribers

6 The Korea Herald, *Korea leads brodband Internet service market,* November 13, 2002

7 At the end of 2000, 46.3% or 21.35 million of Korea's population were concentrated in the metropolitan area with population density of Seoul being 15.342 persons per km^2, which is comparably high. Furthermore, 50% of households live in apartments

PCs nationwide and to narrow the digital divide in accordance with the governmental computerization policy.

The ADSL field is quite competitive because it is a new service in which there is no “lock-in phenomena” (predominance of the first player because of consumers’ confidence) and competitors entered the market more or less at the same time.

“Cyber Korea 21” aimed to provide universal access to broadband by 2002. Korea is now set to migrate from ADSL to VDSL service, a next generation of high-speed Internet technology. In a new initiative, 85% of homes should have 20'000 kbps connections (VDSL connections) by 2005. The Government has offered low interest loans to network providers in rural areas and mandated broadband installation in new apartment buildings.

In brief, over half of all subscribers are signed on to xDSL services, with a significant proportion accessing the Internet at high speed over cable modem connections. LAN (Local Area Network), B-WILL (Broadband wireless local loop) and satellite connections (particularly in rural areas and on the islands) also have some success.

- **Wireless Internet**

Wireless Internet markets have rapidly grown in Korea enhanced by the high penetration rate of cellular phones and the remarkable adaptation of broadband Internet.

The Korean wireless Internet is particularly designed for access by individuals. By using SFA (Sales Force Automation), they can get hold of any information, anytime, and anywhere. It also allows consumers to do their business through a mobile commerce system that enables financial transactions, including purchasing merchandise. The varieties of wireless Internet services that are already in use, or are in trial services in Korea, cover every area of users' daily lives such as tax inquiry, mobile security, and trading and agency services[8].

On December 5, 2002, MIC said it has decided to adopt a single wireless Internet access platform as the first country in the world. The ministry would revise a telecommunications law for the adoption of WIPI, or wireless Internet platform for interoperability, after gathering opinions from the World Trade Organization (WTO) member countries. *Since Korea is going to be the first country to adopt the common wireless Internet access platform, consensus on a whole series of issues among the WTO member countries is necessary*, as the MIC pointed out.[9]

Korea is without a doubt a global leader in wireless technologies and this success can be attributed to well-deployed Internet infrastructure and the continuous development of new technologies obviously enhanced by the government.

Table 2: Main competing operators on the Korean telecommunications market

[8] Source: Korea Times: *Korea taking global initiative in wireless Internet*, NHO Joon-hun, June 5, 2002

[9] Source: Korea Times: *Korea to adopt single wireless internet platform,* KIM Deok-Hyun, December 6, 2002

Name	Ownership	Nationwide market share
Fixed Telephony		
DACOM (Long-distance / Intl), revenue base	n.d.	~11% / ~23%[1] (June 2002) 11% / 30%[2] (December 2001)
Onse Telecom (Long-distance/Intl), revenue base	Lotte: 9.07% Iljin: 9.88% Kohap: 7.25% (as of February 2002)	~4% / ~10%[1] (June 2002) 4% / 19%[2] (December 2001)
Hanaro Telecom (local), subscribers base	LG Group: 13.8% Samsung Group: 9% Daewoo Securities: 4.6% LG Insurance: 3% Foreigners: 5.2% (JP Morgan, UBS Warbung,, etc.) Others: 58.6% (as of February 2003, Hanaro Website)	4%[3] (July 2002)
Mobile telephony (subscribers base, November 2002)[3]		
SK Telecom	SK Group: 32.57% Citibank ADR: 13.85% KT Corp: 9.27% (as of November 2002[3])	52.8%
LG Telecom		14.8%
Broadband (ADSL, Cable, LAN, B-WLL) (subscribers base, June 2002)[3]		
Hanaro	n.d.	26.3%
Korea Thrunet	n.d.	14.1%
(Dreamline, DACOM, Telecom)	n.d.	12.5%

[1] June 2002, estimation

[2] December 2001, in "Telecom market liberalization and market entry", ITU Regional Regulatory Seminar, August 5-8, 2002, Dalian, China

[3] Telecoms country Report: South Korea, World Market Research Center (WMRC), January 17, 2003

3. Legal framework

3.1 Supranational level

Supranational organizations have very little influence on Korean regulatory policies and laws. However, Korea is a member of APEC (Asia Pacific Economic Cooperation) with members like Japan or the USA. APEC is an association of regional economies established in 1989 to promote trade liberalization and economic cooperation. APEC covers a range of economic sectors through 10 different working groups, one being the Telecommunications and Information Working Group (TEL).

The TEL provides an important mechanism among APEC member economies for exchanging information, consulting on policy and regulatory developments, and developing cooperative projects in the telecommunications sector. The TEL works closely with the business sector, policy makers and newly-formed regulatory authorities to accelerate telecommunications reform. It recognizes that this reform will be achieved through sharing experiences and developing 'best practice' approaches.

The TEL has made significant contributions to the reduction of structural and regulatory barriers to free trade in telecommunications services, equipment and investment.
One major activity is the implementation of a Mutual recognition Arrangement (MRA), which facilitates trade in telecommunications equipment. The MRA began in July 1999 after being endorsed by Ministers in July 1998.

APEC Ministers responsible for the telecommunications and the information industries provide high level policy directions. Major initiatives resulting from those meetings include:

- agreement on the key elements of a fully liberalized telecommunications services sector;
- endorsement of principles for enhancing universal access to telecommunications and transparent funding of universal service obligations;
- agreement on a set of principles on International Charging Arrangements for Internet Services (Internet Bandwidth Charging Arrangements - ICAIS);
- agreement on APEC principles on interconnection policy in the APEC region; and
- endorsement of a Reference Framework for Action on E-Commerce to support the growth of electronic commerce, including the development of compatible approaches to the authentication of digital signatures.

As we can notice, APEC agreements mostly consist in general principles and recommendations which have absolutely not the same influence or impact as EU directives. Indeed, their goal is absolutely not to apply as legal provisions, they are too general for this; furthermore as of yet there is no construction project of a regional legal framework as it is the case for the EU.

3.2 General national framework for telecommunications

The two key acts for telecommunication services are the Telecommunication Basic Act (BA) and the Telecommunications Business Act (TBA), both enacted on December 30, 1983 and revised for the first time on January 28, 2000. The TBA was last modified on November 12, 2002 through parliament's vote and this revision will be applicable in April 2003.

The purpose of the BA is to contribute to the enhancement of public welfare by managing telecommunications effectively and stimulating the development of telecommunications (Art 1). A significant portion of the Act is taken up by articles on the *promotion of telecommunication technology*, promotion of research, technical criteria (standards), providing MIC with authority to *adopt new telecommunication modes* (Article 28 "1), promotion of standardization (Art 29), type approval issues, etc. For regulatory reform, the TBA is more relevant than the BA because it is concerned with defining types of telecommunication business, licensing, cancellation of licenses, telecommunication business practices, promotion of competition among telcos, the installation and maintenance of telecommunication facilities and penal provisions. Transparency would be facilitated through the merging of the two acts, at least as regarding provisions relevant to telecommunication networks and services and enhancing competition in telecommunication services.

The BA created the Korean Communication Commission (KCC) in 1992. In addition to KCC, an Information and Communication Policy Deliberation Council was set up within the Ministry as an advisory body in areas such as licensing. In Art. 12 the BA presents the double mission of the MIC: Enhancing consumer's benefits and supporting the industry in the telecommunication field.

Until 2000, there was a third Act, the so-called Telecommunications Construction Business Act which specified that the construction of telecommunications facilities should be done by specialized construction companies independent of the telcos. This requirement was a means of providing special privileges to the construction industry. It was firmly criticized by the telcos who blamed the Act for raising costs to the end-users and reducing potential economies of scale and scope of telcos by constraining their flexibility in facility construction. Many telcos argued that the Act imposed an unnecessary requirement on the industry and should better be abolished in order to allow them to determine how best to construct their own infrastructure. The Telecommunications Constructions Business Act was abolished in 2000 and legal provisions for the construction of facilities are now included in the TBA.

Table 3: Characteristics of the South Korean Telecommunications Law

BA **General provisions** **Art 1**	*The purpose of this Act is to contribute to the enhancement of the public welfare by managing telecommunications efficiently and stimulating the development of telecommunications by providing basic matters on telecommunications.*
BA **Major provisions**	Basic guiding principles on telecommunications Ministerial authority regarding promotion of telecommunications Technology and technical standards for telecommunication facilities Management of telecommunication networks Organization and operation of KCC

TBA **General Provisions** **Art 1**	*The purpose of this Act is to contribute to the promotion of public welfare by encouraging sound development of telecommunications business and ensuring convenience to the users of telecommunications service through proper management of such business*
TBA **Major provisions**	Licensing criteria and reporting procedures for telcos Telcos competition safeguards Rights of telecommunication service users Construction and maintenance of telecommunications facilities
Universal service **(Art 2 (1) 3.)**	*The term Universal service means the basic telecommunications service which any user may receive at reasonable fees anytime and anywhere* Further the Act states that all telcos are obliged to contribute to providing universal service
Interconnection regulation	Calculation methodology: Based on fully distributed costs (FDC) of telecommunications network costs Unbundling Local: Local exchange, local transmission, subscriber lines. Long distance: Toll exchange, toll transmission, line between local station to toll exchange

4. Key regulation actors

4.1 Regulatory bodies

The Korean regulatory situation is very particular, a unique case among the OECD members. There are two different bodies responsible for regulation of telecommunications, the MIC (Ministry) and the KCC (part of the MIC). Till now the MIC gives all authorizations (in matter of licensing, interconnection, penalties, etc.) and the KCC is a kind of arbitration and investigation body under the control of the MIC, i.e. even if its decisions are usually enforced,

they are controlled by the MIC. Koreans say about the KCC that it is a half-independent body; in fact for now, it is absolutely not independent and its regulatory powers and resources (especially in terms of staff) are very weak. This situation is currently changing (notably with TBA revision adopted by the parliament in November 2002 and applicable in April 2003).

4.1.1 Ministry of information and communication

The Ministry of Information and Communication (MIC) is responsible for telecommunication policy and regulation. It is also responsible for broadcasting policy, for operating postal services, and postal saving and insurance services. The MIC also has broad powers over industry promotion in the information and communication industry, and in particular in the IT manufacturing and software industries. The MIC's mandate includes the promotion of research and development and the responsibility for equipment type approval. The ministry has a number of advisory bodies, including the Korea Information Society Development Institute (KISDI), which is considered as an expertise body for telecom related market and competition issues.

In spite of the existence of the KCC, the MIC still maintains most of the regulatory functions (license issuing, authorization of interconnection, spectrum planning and allocation, numbering, price regulation, universal service and monitoring service quality) in addition to its traditional "guidance" and industry promotion policies. Thus, MIC maintains two objectives that are potentially conflicting: to protect users' interest and to ensure sound industry development. This means that, unlike other OECD countries where the major objective of the regulator is to maximize users' interests, MIC's efforts in the telecommunication service sector can be subject to other industry pressures.

Continued progress in reform and in reducing direct governmental intervention requires by law the separation of the regulatory function from industry promotion functions, for example through an amendment to the BA. Adaptations are en route.

4.1.2 Korea Communication Commission (KCC)

- **Foundation and history**

The Korea Communications Commission (KCC) was established by Art. 37 BA in March 1992. From 1992 to November 1996, the KCC's main responsibility was to review major policies of the government on information and telecommunications, which included licensing of telecommunications service carriers. Revisions to the BA, which came into effect in January 1997, state that the KCC is a regulatory body in charge of ensuring fair competition in the telecommunications field. These revisions increased the power of the KCC in terms of numbering and financial statement.

- **Structure**

The KCC may have a maximum of 9 Commissioners including the Chairman and one Standing Commissioner. Currently, it has 7 Commissioners (a lawyer, a judge, an economist, two professors, a member related with consumer protection and a government official). All Commissioners, including the Chairman (currently YOON Seung-young) are appointed by the

President with the recommendations of the Minister of Information and Communication. The term of the Commissioners except for the government official is every 3 years renewable. The Chairman presides over all the KCC meetings; coordinates and organizes the work of the Commission, and represents the agency in legislative matters and in relations with other governmental departments and agencies. In 1997, a secretariat was established which supports the KCC and carries out investigations on unfair competition practices; it is composed of 5 divisions: General Affairs, Inquiry, Arbitration, Investigation I and II. There are 25 staff members including the Chief of the Secretariat. The Secretariat also has the Complaint Center for telecommunications service users, which is operated by two assigned staff members.

- **Legal attributions, responsibilities and duties**

The KCC has 3 major functions: Arbitration, inquiry and investigations

- First, the KCC arbitrates disputes between telcos regarding the provision of facilities, interconnection, collocation of facilities, provision of information related with the facilities, and disputes between telcos and consumers. KCC makes exclusive (quasi-jurisdictional) decisions on arbitration.

- Second, the KCC deliberates on the establishment or revision of rules related to fair competition, on provision of facilities, interconnection, collocation, provision of information related with facilities, on agreements between telcos on above mentioned matters, and proposes corrective measures against unfair practices such as denial of interconnection, non-fulfillment of agreement, misuse of information, violation of service contract and damage to consumer benefits.

The KCC then sends the results of deliberation to the Minister of Information and Communication and the Minister issues a corrective order.

- Third, the KCC investigates on unfair practices.

The KCC can make binding decisions. For example, when it arbitrates between companies, its decisions cannot be overturned by the Minister. The Minister can request that a decision on unfair business practices is reconsidered, but if 2/3rds of the Commission agree then the initial decision is final; this proceeding never happened. This possibility will disappear in April with the new law. The KCC is responsible for reviewing the telecommunication numbering plan and for accounting standards.

The KCC is not equivalent to many European telecommunications regulators, it is an integral part of the MIC and largely plays an advisory role with a minimum of regulatory power; its independence mentioned on the KCC's website and on documents is relative. The KCC's powers are indirect, based on its ability to undertake reviews and sanction individual abuses. As a result, it tends to be reactive rather than proactive, responding to complaints since it does not have the authority to ensure that appropriate conditions and safeguards are in place for competition to develop. However, the KCC has the power to take action against

companies deemed to be engaging in unfair competition and to sanction, including fine these companies. Art. 37 BA allows the KCC to impose these fines.

The creation of the KCC has been an important step towards improving the institutional structure of regulation. Further steps have recently been taken in order to create a more effective independent regulatory body that is able to create and maintain the conditions for effective competition that maximizes user welfare. The total independence of the KCC could be achieved by separating the KCC from the MIC, accompanied by a reallocation and a clear demarcation of responsibilities between the MIC and the KCC. The KCC, in order to become a complete regulatory body should receive the competencies in terms of licensing, price controls and interconnection, overseeing policies on universal service and the implementation of other regulatory safeguards. Autonomy of the KCC in terms of budget and staff would be necessary.

It is important to point out that there is a consensus among industry players for the necessity to transform the KCC into a fully independent body in order to ensure fair and transparent regulatory rule making in the telecommunication service sector.

Notably, with the new revisions package (applicable in April 2003), some of the former MIC's competencies are transferred to the KCC. The articles of the TBA concerned with those modifications are as follows: Art. 34-6, 36, 36-2, 36-4, 37, 37-2. In brief, the KCC will have the power to give agreements in matter of interconnection, will receive each year telcos' business reports, decide to investigate or not, request the useful data of the telcos for an investigation. The KCC will also be able to order some measures (Art 37 (1)); especially, change of contents of an agreement between telcos, suspension of prohibited acts, public announcement of a prohibited act receiving a correction order, measures necessary for restoring the violated matters due to the prohibited acts to their original status, such as the removal of telecommunications facilities. In addition, the KCC will have the power to impose penalties without receiving any authorization from the MIC. The number of fines might therefore increase substantially.

- **Resources**

Financing: The KCC's budget is financed through the government budget adopted each year by the Assembly.

Staff: The KCC is significantly understaffed compared to other OECD countries regulators. It only has about 25 employees and therefore is constrained in the number and depth of the initiatives it can take. In addition, since the staff is a part of the MIC, it is difficult to expect that they will act independently on the MIC's policies. The personnel turnover is very low, only 2 people have quitted their job so far. About 30% of the staff has special backgrounds in IT. In Korea, people working in the private field generally do not like to work as civil servants and reciprocally, therefore, there is no "captions problem", i.e. that decisions or plans of the KCC are unlikely to be illegally transmitted to the incumbent or other telcos.

4.2 Competition authority

The Korea Fair Trade Commission (KFTC) was established in 1981. The KFTC is administratively attached to the Prime Minister and is composed of nine tenured Commissioners. It is the administrative body responsible for competition policy in Korea. In 2000, the personnel of the KFTC was of 444 people (401 regular employees) and its budget was of 193 billion KRW (about 140.5 million €)[10].

Although, the MIC is the authority responsible for anti-competitive behavior in the telecommunications sector, it is not the only one. Since the sector is subject to Korea's basic competition law, the Monopoly Regulation and Fair Trade Act (MRFTA) in which there are specific articles about telecommunications (e.g. essential facility). The TBA and the MRFTA have overlapping articles. In order to avoid possible conflicts between the KFTC and the KCC in matter of conflict resolutions, both institutions signed agreements with each other in 1999 and 2001 in order to clarify their respective prerogatives. The agreements specified that the KFTC was in charge of regulating general unfair competitive behavior (in terms of M&A and advertising) and that the KCC was in charge of specialized cases related to telecommunications competition, for example, privatization, prices rate, rights of way, etc.

In 2000, the KFTC launched the "Clean market project" which aimed *to concentrate the KFTC's capacity on detecting anticompetitive elements in selected industries that were harming consumers. This project had the goal that such industries ultimately become pro-competitive*.[11] In 2001, the selected industry sector was the telecommunications sector. The KCC objected to this plan because it fond that the KFTC was going beyond its prerogatives. The KFTC had to explain clearly the contents of the project and then both institutions made an informal agreement to end the conflict.

KFTC's action

A recent example of unfair practice handled by the KFTC could be the following: on October 13, 2002, the KFTC fined the country's largest mobile operator SKT 2.08 billion KRW (about 1,500 €) for using slanderous advertisements against its main competitor KTF. The KFTC also ordered SKT to post apologies in the national press after ruling that it violated fair competition rules. The case originated with advertisements edited by KTF in July 2002 which cited a mobile industry ranking compiled by the U.S. magazine BusinessWeek that claimed, KTF's growth in recent years had outpaced other mobile carriers including SKT. SKT responded immediately by launching its own advertisements questioning KTF's claim with a series of sarcastic slogans, including one which accused its competitor of only thinking 'KTF-wise'. KFTC ruled that BusinessWeek had used Standard & Poor's data to calculate the rankings and that SKT's advertisement about KTF distorted the facts, thus damaging KTF's corporate image and violating a series of advertising regulations.[12]

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[10] See www.oanda.com, online money converter. Exchange rate, May 15, 2003: 1€ = 1374 WON

[11] *Annual Report on Competition Policy Developments in Korea (2000),* KFTC, October 2001

[12] Source : CIT Communications Update, October 14, 2002

Again in 2000, 703 cases of business M&A (e.g. business combinations among affiliated companies, conglomerate merger of large scale business group) were handled, among which the case of Shinsegi Telecom's stocks acquirement by SKT. This combination boosted the companies' market shares to 56.9% with SKT taking 42.7% and Shinsegi 14.2%. The merger was feared to aggravate market concentration and there was a concern that the merger might cause the flocking of subscribers to the combined operator due to the industry-specific external network effect. Considering this, the KFTC realized that rather than unilateral prohibition of business combinations, maximizing the benefits to be derived from it would be better. Under this recognition, KFTC ordered SKT to reduce its market share to less than 50% by June 30, 2001.

The KFTC's decisions can be appealed to the Court of Administrative Litigation. For example, SKT once appealed an injunction with administrative fines for constraining behavior and won. About 20% of the KFTC's decisions go to court; the process of appeal takes usually about 1 year but it does not seem to hinder the KFTC's work. Decisions of the Court of Administrative Litigation may then be appealed to the Supreme Court. It is important to notice that a fined company can ask for fine suspension if such a fine is dangerous for its survival on the market. This has rarely happened till now, certainly because of the low amounts of fines.

4.3 Judiciary

The KCC's decisions can normally be overruled by the MIC but if 2/3 of the KCC's Commissioners think that the decision is right, the decision is confirmed. This possibility will disappear in the new TBA law effective in April 2003.

Another way for the KCC's decisions to be overruled is through an appeal to the Court of Administrative Litigation, which has never happened.

The MIC's decisions can be appealed to the Court of Administrative Litigation, but even if the Court finds out important failings in the decisions, it can only recommend the MIC to cancel the concerned decisions. In this sense, the Court cannot overrule the MIC's decisions. There has been no report of this kind of appeal until now.

4.4 Competing operators

There are several organizations representing the telecom industry in Korea, but all of them have more or less close links to the government. The Korean political context does not leave a lot of room for questioning or consensus building, which is why there is very little debate around the regulatory decisions made by the Ministry. Most of the time, decisions are enforced without any official complaints and if there are any, they are mostly neglected.

5. Regulatory functions

5.1 Allocation of scarce resources

5.1.1 Frequencies

The MIC is responsible for spectrum planning and allocation. The legal basis for the MIC's authority is the Radio Wave Act. A number of important changes have taken place over the last decade in the policies used to allocate frequencies. The policy in 1991 was for the MIC to provide ex post information on the detailed allocation of spectrum bandwidths, selection of the operators and allocation of spectrum within given bandwidths. Recent changes in spectrum allocation policy have improved the transparency of the allocation procedures. At present, the MIC decides on the number of operators for available bandwidths and publicizes the number of licenses to be issued and the application procedures. Licenses are allocated through a competitive tender procedure.

5.1.2 Rights-of-way

Facility-based operators can submit a request to the MIC (Art 18 (3) TBA) to use land or structures owned by the state, local governments, government-owned institutions or other facility based operators when an agreement cannot be reached by the operator and other parties. The Minister of the MIC can order other institutions to consult with operators in the context of rights of way and these institutions need to comply with this request. The MIC also has recommended to mobile operators to share antennae sites.

5.2 Enhancing competition

5.2.1 Licensing

The licensing classification system adopted in April 1995 determines two categories of services: Value-added services that require notification (on application) and facility-based services that require authorization (after a first notification).

Further streamlining and improvement in this classification and licensing system was introduced in late 1997. The current licensing classification system requires authorization for facility-based providers, registration for special service providers and notification of value-added network providers. Licenses for fixed facility-based services are differentiated by the type of service offered (local, long-distance, and international). In other words, a prospective licensee needs to apply for multiple licenses if it whishes to offer local, long-distance and international services.

The procedure to obtain a license takes place in several steps:

- Application: 2 times in a year, between the 25th and 31st of March and between the 25th and 30th of September.
- Decisions on feasibility of licensing are based on public interests, laws, regulations, and availability of spectrum. Notifications are issued on April 30 and on October 31.
- Licensing procedure:

- Phase 1: Qualification, business plan: Foreign ownership (up to 49%); financial and technical capability; user protection
- Phase 2: Spectrum fee
- Notification of selection on June 30 and on December 31.
- Issue of license: Registration of capital, deposit of spectrum fee, etc., according to relevant laws[13].

3G

There has been a big controversy in Korea about the choice of 3G Technology. Two technologies were indeed in competition: the European and Japanese W-CDMA and the Qualcomm's CDMA2000 favored by the Korean government itself.

Three 3G licenses were to be awarded. Two were attributed on December 15, 2000 to SK Telecom (SK IMT) and KT (KT ICOM), the number one and two mobile operators in the country; SKT and KTF were allowed to use W-CDMA as specified on their license application. LG and Hanaro failed to win the third license mainly because of technical insufficiencies.

The government wanted at least one of the three 3G Operators to deploy CDMA2000. For the second contest it had to choose between applications from LG which was pushing for a W-CDMA deployment and Hanaro Telecom, the only bidder to submit an application based on CDMA2000. Finally LG, already a consortium consisting of 767 companies, teamed up with Hanaro in a second consortium which became the only candidate to bid this time for a CDMA2000 mobile license.

The MIC rejected LG's request for a lower fee, 220 billion KRW (about 160 million €) instead of 1.15 trillion KRW (about 836 million €). However, LG was finally allowed to pay 220 billion KRW upfront and pay the rest over 15 years in installments worth one to three percent of its sales.

Finally on August 25, 2001, LG Telecom was awarded the last 3G license (CDMA2000). LG Telecom is the country's smallest wireless service provider and analysts cast doubts on LG's ability to compete with the two giants. Nevertheless, the country is keen to implement both W-CDMA and CDMA2000 technologies.

South Korean mobile operators are planning to launch their 3G services in 2003. SKT's 3G subsidiary, SK IMT, has announced that it will launch a commercial 3G service in Q3 of 2003.

5.2.2 Granting access to infrastructures to new companies

- **Interconnection rates and agreements**

After competition was introduced under the TBA in December 1996, regulations related to interconnection and access were gradually provided as well. Currently, when a carrier

[13] Source: , LEE Ki-joo*, Telecom market liberalization and market entry*, ITU Regional Regulatory Seminar, 5-8 August 2002, Dalian, China

possesses facilities essential for other carriers in delivering services and has a dominant market share and size of operation, it falls under the criteria set by the decree of the MIC. The decree requires the dominant carrier to accept the request from another carrier for the provision of telecommunications facilities, the sharing of subscriber lines, the sharing of wireless facilities, interconnection, etc.

KT and SKT are presently subject to the mandatory provision of access and interconnection. They are required to have an access/ interconnection agreement between them and with other operators and follow the criteria set by the MIC. If no agreement is reached within the specified period (90 days), either of the parties may request the KCC's arbitration.

Generally interconnection charges are calculated by unbundled service elements based on historical and fully distributed cost (FDC). From 2000, interconnection charges of fixed operators and mobile operators are determined by applying X factor (annual discount rate) to interconnection charges calculated by the cost of the previous year. X factors are 3% for domestic, 10% for long distance and 8% for mobile telephony. The application of a cost-based methodology to the mobile network cuts down the interconnection charges of mobile network operators by 28% in 2000.

The LRIC method will be applied for 2004 interconnection rate calculation. If this change had already been adopted, the impact on KT would have been an increase in revenue by approximately 9 billion KRW (about 6.5 million €) in 2002 and a decrease in revenue of approximately 9 billion KRW in 2003 comparing to revenue of 324 billion KRW (about 235 million €) in 2001.

- **Leased lines**

The market for leased lines is increasing rapidly due to the development of new telecommunication services and new communication business entities entering the market. At the end of 2000, the number of leased lines was 595,368, spread among 6 leased line service providers that include KT, DACOM, Korea Thrunet and Powercom among others. Total revenues for leased lines were of 1,024.7 billion KRW (about 745 million €).

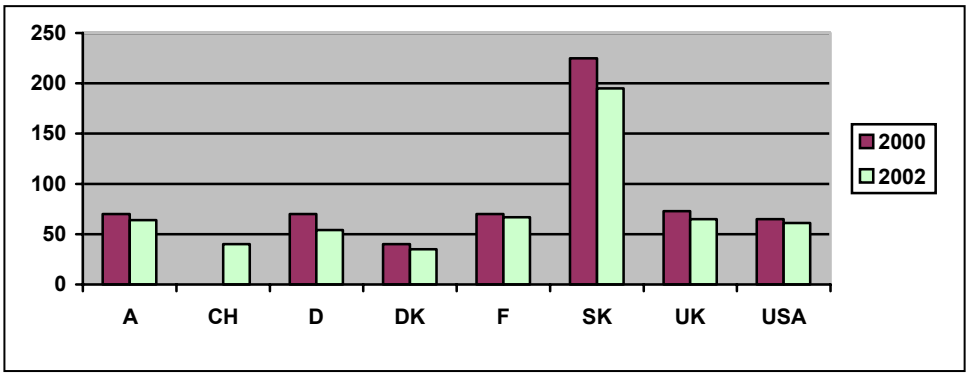
As of end 2001, KT had 67% of market shares, Powercom 10% and others 23% together.[14]

In spite of important price drops since 1998 and the liberalization, large price differences remain within the OECD. Indeed the Nordic countries have the lowest charges, at about one-quarter of the OECD average. The Czech and Slovak Republics have charges of at least twice the OECD average. Korea is the third most expensive country among OECD countries and the first in our eight case studies.

[14] Source: *Telecom market liberalization and market entry*, LEE Ki-joo, ITU Regional Regulatory Seminar, August 5-8, 2002, Dalian, China

Leased lines high prices are often considered to be a reason for ADSL difficulties to spread in a country. The case of Korea refutes this explanation and shows that ADSL development is more a question of will (government, incumbent, IT policy).

Figure 5: Price index of Leased lines, basket of national leased lines of 2 megabits per second, OECD average 100, source OECD



- **Unbundling**

In December 2000, the TBA mandated a new obligation to major telcos to provide their unbundled elements to competitors. Furthermore, the Government finalized the details of the obligation and relevant pricing scheme in December 2001, so that unbundling obligation is now effective *de jure* as well as *de facto* in the Korean marketplace.

It is noteworthy that Korea enacted its statutory and regulatory requirements for dominating broadband facility-based service suppliers (KT, Hanaro and Thrunet) to provide unbundled network elements to their competitors when the country was already well on its way to leading the world in broadband access penetration rates.

The rapid and widespread development of ADSL was the result of strong political will and was made possible among others by the high number of technicians (2500) trained by KT to install ADSL. In 2000 alone, more than 2 million ADSL connections were installed. This lead to fierce competition between cable modem and ADSL technologies.

The goals of compulsory unbundling were to enhance competition in the ADSL segment, largely dominted by KT, Hanaro and Thrunet and to ensure high levels of innovation and investment in the broadband sector.

As for fixed telephony, unbundling has not lead to a major evolution of market shares so far, which is also true for many other countries were unbundling was made compulsory a fey years ago.

5.2.3 Facilitating access to customers for new companies

- **Carrier pre-selection and call-by-call carrier selection**

The Korean government took over the management of numbering resources in 1991 when the telecommunications market first opened to competition. For domestic long distance and international calls, the MIC has authorized carrier pre-selection since November 1997. To increase transparency and ensure fairness, the MIC established the "Long Distance Carrier Pre-selection Registration Center" responsible for changing and maintaining records to pre-selection in July 1999. Users can now register with the Center if they wish to change their pre-selected carrier. This is an important service, because for example KT used discriminatory verification to review customer request forms to change carriers. Local carrier pre-selection will be introduced during the year 2003.

- **Number portability**

Recognizing the difficulty of introducing competition in local loop without number portability (NP), which allows customers to reduce the transaction cost of changing service provider, the government announced a detailed plan to implement NP in fixed telecommunication services in January 2001 (amendment of the TBA) and for the mobile market in January 2002.

However the proceedings took time and it was only in August 2002 that the MIC announced that it will gradually introduce NP in the mobile telephony:

- NP for the mobile service will be introduced first for 2GHz IMT-2000 services.
- Appropriate policies will be devised for NP among 2G service providers (intra-generation) and between 2G and 3G service providers (inter-generation) within a year after the adoption of NP within 3G.

For 2GHz IMT-2000 services, NP will be introduced within 6 months after their service launch by more than 2 service providers in the market.

5.2.4 The guaranty of stable and fair market conditions

There is no restriction on the number of licenses to allocate in the fixed and mobile telephony market in Korea. However, very few companies enter the market nowadays, certainly because of the poor chances of survival due to heavy charges on operators, costs of new networks or advertising, etc. In addition, entering the Korean market is not easy given the burdensome entry conditions: Limited application periods, license fees, R&D taxes, etc.

- **Legal certainty and planning certainty**

As part of the very powerful Korean government, the Korean regulatory body is strong and provides high legal and planning certainty. The high degree of legal and planning certainty in Korea is a result of Korea's quasi-authoritarian government tradition and a complex socio-historic tradition. Korea's history is marked by Confucianism[15], wars, Japanese colonization

[15] The interventionist role of the state may have been supported by Confucian values emphasizing obedience to authority: « *It is implicitly accepted that whatever the Government does is for the benefit of the society. Under these social values, whatever the Government does is assumed to be in the public interest. Even today, many Koreans believe that it is in their interest for private citizens to have the Government's blessing to do any kind*

and several very interventionist authoritarian military governments. As a result of all these factors, the Korean political and social context is one of little opposition and debate. In the mere field of telecom regulation, this social habitus definitely influences the powers and outcomes of the regulator.

As most governmental interventions, decisions of the MIC and the KCC are imposed and enforced with very little controversy or debate even if there is currently a tendency to change. Operators have started complaining about the lack of negotiations and transparency of the regulatory body, in spite of the current system's ability to provide legal and planning certainty. At variance with Korea's traditional lack of contesting, recently, several appeal procedures have been engaged against governmental (KFTC) decisions in the telecom sector.

Operators claim that the type of legal certainty yielded by the present system is not desirable. In the light of recent evolutions, there is a discussion to part with Korea's tradition of centralized and unopposed authoritarian power, and give more independence to the KCC with the next adaptations of the law. The new configuration of the Korean regulatory regime would certainly be more transparent and open, but it would also cause problems in terms of legal and planning certainty, just like those that exist in most other industrialized countries.

A lack in planning certainty is also due to the time limit needed by KCC to settle a dispute. Different parties in a conflict have to negotiate and try to find a solution within 90 days. After this deadline, they may ask KCC to solve the case. Then KCC has to settle the dispute within a maximum of 90 days. Thus, the total time needed to solve a conflict can reach a maximum of 6 months. Furthermore, another reason for procedural lengths is the patent lack of personnel at KCC. Unlike France where there is a solid culture of civil servants, in Korea civil servants are disregarded and therefore divested of means.

In spite of this remark, we can deem that settlement decisions are quite rapidly given in Korea compared to other OECD countries where the time limit can be really excessive (sometimes up to 1 year). This can be explained by the fact that administrative decisions in Korea are scarcely appealed and overruled and that the administration does not have to take these possibilities into account.

- **Debt authorization**

This topic is quite sensitive in Korea, especially because of the *Chaebols* tradition[16]. Indeed, *Chaebols* were well known for their high level of debt, which results of their diversification into many business lines and their reliance on bank loan. They were so big (thousands of employees in multiple areas) that they were often considered as “too big to fail”. The *Chaebol* problem can be found in the whole Korean industry especially in terms of corruption and nepotism. Today, the situation is quite different since the major objective of the governments since the mid-80s has been to reduce the concentration of economic power in the *Chaebols.*

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of business, whether there are specific regulations affecting them or not » KIM Jong-Seok, *Korea’s regulatory reform : an overview,* Hong Im University, Mimeo, 1999

[16] See point 1.3

However, the *Chaebol* heritage still accounts for the Korean tendency to allow companies (including telcos) to accumulate important debts.

- **Sanction power**

Sanctions can be taken in case of unfair practices: Refusal to negotiate and provide interconnection, breach of agreement, discriminatory treatment, etc. Till next April, the amount of fines can reach a maximum of 1 billion KRW (about 728'000 €) or 3% of yearly revenue (depending on cases), which is very low and does not burden much cheating operators.

With the new law, the maximum amount of fines will be increased, which will certainly have more impact on the telcos' behavior.

Another way to punish operators is penalty days. For example, on October 26, 2002, the KCC decided to place penalties for the violation of the handset subsidy ban to SKT, KTF, LG and KT. Operators were prohibited to attract new subscribers for a certain period of time to lessen the consumer inconvenience. The service for existing subscribers was provided as it usually is. The penalty duration of each operator was as follows: 30 days for SKT, 20 days for KTF and LG and 10 days for KT PCS resale.

- **Prices surveillance**

At the end of 1995, the prior approval system for telecommunication tariffs was abolished. Under that system, the MIC had to approve all telecommunication tariffs from all operators. Now operators are free to determine their own tariffs, and changes in tariffs have to be notified to the MIC. However, the MIC has intervened in tariff setting and can refuse a change in prices. The only tariffs that now require formal approval are those of KT's local service and those of SKT, the market leader in mobile service. The justification for maintaining the approval system on KT's local charges (fixed and usage charges) and on SKT is market dominance.

5.3 The guaranty of public service

5.3.1 Universal service

USO was defined in the TBA on September 17, 1998, and specific rules were laid down in the Implementation rule of TBA on March 17, 1999. KT was designated as the universal service provider for two years from December 3, 1999 and the Order on US deficit calculation was issued on December 31, 1999. Finally US as defined by the new law started on January 1, 2000 and KT was selected again as a US provider for two years on March 7, 2002.

The term universal service means the basic telecommunications service which any user may receive at reasonable fees anytime anywhere [TBA, Art 2 (3)]. US in Korea includes 4 areas:

- Wireline telephone: Local telephone, local payphone, insular phone
- Emergency calls

- Wireless telephone service for ships
- Rate discount for low-income and disabled subscribers

Currently the major issue about US is the opportunity or not to include broadband Internet service.

The method to recover the deficit of US provider is the following:

- For local telephone, local payphone, insular telephone and wireless telephone service for ships, common carriers contribute proportionally to their net revenues.
- For emergency calls, rates discount for low-income and disabled subscribers, the deficit is recovered by each carrier.

Currently, the calculation method used in Korea is the FDC (Fully Distributed Cost) method, but there will be a switch to LRIC in 2005. Up till now, there was a limited compensation rate for the refunding of USO costs that depended on the category of service and the cost/revenue ratio. Follwing this scheme, KT could recover between 10% and 90% of the costs induced by the provision of USO. In August 2002, the compensation rate was fixed at 50%, whatever the service or cost/revenue ratio. As a result, the refunds received by KT for USO were significantly increased.

The reasons behind these changes were KT's privatization and the consequent assumption that KT's market dominance and interconnection revenues would decrease. Accroding to KT however, USO is still a big field loss and compensation should increase in the long run with further competition from fixed and mobile operators. The compensation rate will be increased up to 100% by 2005 as the LRIC (long run incremental cost) scheme will be adopted.

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5.3.2 Consumer protection and quality control

In Korea, KT is obliged to provide compensation to customers (Art. 27 of KT's terms of service contract) if phone service becomes unavailable and also provide compensation if malfunctions are not corrected within 12 hours after being reported. The requirement to compensate customers when faults are not repaired within a specified time period also applies to other service providers.

In June 1999, MIC started a Telecommunications Performance Monitoring System (TPMS) aimed at auditing call quality and customer service. This has begun for mobile calls, local, international and long distance services. The TPMS uses both subjective and objective indicators. Customer service is evaluated by an independent agency based on data submitted by operators. Results of TPMS are published and eventually used to fine operators that do not meet service quality requirements.

In addition, the KCC has a customer complaints center which investigates cases submitted by consumers.

The number of complaints concerning telecommunications service standards in Korea has risen substantially over the past 4 years. According to the MIC, the increase is a result of

increasing competition in the telecommunications sector and a rise in the number of service providers. The majority of complaints concerned overcharging and poor service.

6. Evaluation of the regulatory system

6.1 Evaluation of the NRA

6.1.1 Resources and expertise

The MIC and the KCC are currently updating their tasks repartition; the tendency is to give more independence to the KCC to settle disputes, impose substantial fines, in fact to make sure that telecommunications laws are respected and implemented. The MIC will keep passing the telecommunications policies and laws and will still decide about entries, spectrum allocation, numbering plans, price regulation, etc.

The KCC will probably become a more independent regulatory body with the current law modifications. However, the Korean culture of having a strong government and authoritarian public policies will be difficult to change rapidly. That means the establishment of a totally independent regulatory body is quite unlikely to imagine in Korea.

It is interesting to point out that Korea follows the same trend of reform (improvement of dispute settlement prerogatives) than the rest of western countries. Thus, we can deem that Korean telecommunications conjuncture and regulation issues meet those of other countries.

The KCC will have to increase its staff in order to comply with its new legal obligations. Litigation cases are increasing and the staff is overloaded with work.

The expertise of the KCC is widely recognized. However, we can point out that the MIC has also a specific telecommunications expertise body named KISDI to which it often refers as well as the KCC.

6.1.2 Independence vis-à-vis political interests and transparency

On the one hand, the fact that KT is fully privatized since May 2002 signifies that it does no longer have linkages with the government as it could be the case in countries where the incumbent is partly state-owned. On the other hand, the Korean regulatory system is absolutely not independent from the government since the real regulatory body is the MIC and the KCC is only a half-independent body specialized for disputes resolution.

We notice that there is a repetitive difficulty to apprehend the specific regulatory situation of Korea for Europeans, because it does not comply with any other western cases, but also for Korean citizens themselves. Indeed the articulation of relations between the MIC and the KCC is complex and confuse in terms of tasks repartition and is partly the cause of a certain opacity of the system. The Korean government should do everything to change this situation in order to reduce this complexity for Korean citizens and foreigners and therefore improve transparency.

Very few information in English can be found on the MIC and the KCC websites as well as in references. That is a pity for foreigners who want to inform themselves about telecommunications regulations in Korea, especially for investors. Those few reports found in English were mostly of them only about IT industry and IT market and not about regulations. Korea scarcely wants to question its regulatory system, which is always considered as perfect and as the best in the world although, according to some Korean interlocutors, very few negotiations are organized with telcos and decisions are mostly imposed.

6.1.3 Efficacy and credibility

The regulatory body is difficult to judge in Korea because of the particular institutional articulation. What we can state is, that the decisions of the MIC or the KCC have never been overruled till now and are scarcely appealed.

In matter of efficacy, this may mean two things: either the regulatory bodies are extremely fair, or the possibilities of appeal are very narrow, which is rather the case. Furthermore we have to take into consideration the Confucian culture and its influence on the Korean society which causes a kind of allegiance of people to administrative decisions.

The asymmetric regulation exerted by the MIC on KT is not strong enough, in particular in the fixed telephony, where the extreme dominance of KT can be described as excessive and tending towards monopoly. This market is becoming unattractive, which is on the total opposite of public policies objectives of regulation.

6.2 Flexibility of the whole regulatory system

The Korean regulatory system is currently changing and will certainly result in an extension of prerogatives of the KCC in April 2003. The reason for this and the will to change is certainly a desire to converge to other well-known western regulatory system like the FCC or the OFTEL and to adapt the system to today's economic context, which requires a clear and logical repartition of competencies (unlike the double mission of the MIC).

An illustration of the adaptability of the system could be the example mentioned by the MIC: In 1997, the dramatic Asian economic crisis did not have major repercussion on the telecommunications sector which continued to grow unlike other fields. The MIC protagonists deem that this paradoxical situation was a logical consequence of the adaptation of telecommunications laws to the market context and that it was proving the flexibility and the efficiency of the Korean telecommunications regulatory system.

In order to make regular assessments of the situation of the Korean telecommunications sector, the MIC and KISDI carry out studies on a regular basis. These studies are usually market studies and IT studies, but they rarely assess performance of regulatory intervention. Some evaluation of regulation is realized by the OECD or the APEC, but they do not have a monitoring purpose since they are external.

7. Performance indicators

7.1 Competition

- **Number of operators in the market**

The total number of operators in the local, long distance, international, mobile, leased lines, broadband wireless Internet markets, etc. was 43 in 2002, which is very low compared to other OECD countries. Currently telcos are threatened by the global economic slowdown and their future is not ensured[17]. In brief, we can describe the indicator "number of operators" as bad in Korea and even worsening.

The Korean authorities have a huge responsibility in this situation, indeed, they did not allege the burdens on operators last years: Licensees taxes, obligatory R&D participation, only two application periods in a year, etc. In addition Korea is the only OECD country to impose limits on foreign ownership, which obliges Korean telcos to find preferably native investors.

Regarding regulatory bodies (MIC and KCC), their responsibility in this field is limited, since they cannot control the economic context or the demand-side, but nevertheless they could exert some pressures in order to facilitate licensing procedures. Otherwise, the MIC did a lot in order to maintain or increase the number of competitors on the market: It controls fixed market incumbent's local and mobile market prices, it promoted the introduction of CPS, LLU and NP and finally, even if this fact is more related to socio-cultural factors, it ensures legal and planning certainty.

- **Market shares of the incumbent**

KT's market shares are extremely dominating in the fixed telephony, especially in the local telephony market with 96% and in the long-distance telephony market with 85%. As for international telephony, KT's market shares can be described as reasonable (63%).

SKT, the incumbent on the mobile market has a market share of 52.8% as of November 2002, which indicates a good level of competition in this segment. Nevertheless, competitors of SKT are complaining about its dominance and demand a strong asymmetrical regulation comparable to that of the fixed telephony market (control of cost-accounting, termination prices, marketing strategies). Although, the dominance of SKT is comparable to the one of incumbents in other OECD countries and although Korea already exerts a form of asymmetric regulation on the mobile market as the regulator controls SKT's prices, demand for asymmetric regulation increases.

The Internet field is very competitive especially regarding ADSL (65% of broadband market) where KT is confronted with strong marketing dynamism from Hanaro. Other sectors such as cable, Wireless Internet, etc. have different characteristics. On the one hand, the cable market is quite competitive as well with 4 competitors: Hanaro, Dreamline, DACOM, Onse Telecom. On the other hand, the wireless Internet market is monopolized by DACOM.

[17] In this regard KT is about to release about 2000 employees in 2003

The government has introduced measures such as LLU to prevent unfair practices resulting from the existing monopoly of subscriber lines and to provide all service providers with equal access to the lines. However, it does not offer a fundamental solution. Hanaro complained recently about KT's local loop fees and facilities, and KT received a 300 million KRW penalty (about 218'000 €).

It is difficult to state that competition in the Korean domestic telecommunications market is either fair or very effective. Fair competition requires the prevention of unfair business practices so that the natural benefits of competition (for instance price reductions and service diversification) are reflected in the market.

Reducing ex-ante regulatory measures and strengthening ex-post regulation has been the recent strategy in the Korean telecommunications market. However, as the Korean telecommunications industry seems to lean towards further consolidation and monopolization, there is still need for strong asymmetric regulation.

In theory, there is free competition in the domestic telecommunications market; but in reality, most service providers are too weak to compete against market leaders. In fact, the dominance of KT in the fixed telecommunications sector and that of SKT in the wireless sector still continues. Telcos that were established as part of the policy to promote competition on the market are having difficulties in achieving profits, due to the market dominance of the leading service provider, the limited market size, and the large initial investment burden.

Eventually we can describe the indicator "market shares" as reasonably bad in Korea since KT still dominates more or less the whole fixed market and since SKT slightly dominates the mobile market. Concerning the broadband Internet market (dial-up almost does not exist anymore), it is quite competitive with Hanaro's dynamism but KT also dominates.

Regulatory bodies could obviously do a better job in this field: Price information to the public, surveillance of the incumbent's compliance with the provision of pre-products (prices, timeframes, quality, time of response) are neglected, surveillance of abusive marketing practices could be as substantial as surveillance of advertising. Finally, maximal fines allowed by law should be inflicted to incumbents in order to have more impact on them.

Of course regulatory bodies can hardly deal with external factors like customers' loyalty to the incumbent, bad quality of new entrants' services or the lack of choice in certain parts of the country because of the absence of competitors.

- **Choice for the consumers**

Several different technologies are offered to Korean customers: In the fixed telephony market 3 technologies are proposed: Fixed telephony (copper wire), cable telephony and wireless local loop. Sedentary technologies however are losing speed to the profit of mobile telephony. Korean mobile telephony offers only one technology: CDMA technology, a formally foreign technology which was natively developed. As for Internet, 5 technologies are

proposed: ADSL, cable Internet, wireless Internet, LAN and satellite. Dial-up and ISDN Internet are in a phase of decline.

Korean customers responded very rapidly to the ADSL offer, making their country the world leader in this technology.

Regarding the choice of operators it can be described as quite low: In fixed telephony, there are 2 operators on the local market, and 3 on the long-distance and international markets.For mobile telephony, there are also 3 operators.

Globally, in matters of choice between different operators, Korea does not have a very good record. Operators are very limited on the telecommunications market compared to other OECD countries which could be the result of a lack of attractiveness, of heavy burdens on operators and of Korean protectionism towards foreign capital. The main target of the MIC should be specifically to allege burdens on new operators and to loosen its policies regarding foreign capital. On the other hand, choice between technologies is very dynamic since new technologies are always put forward as national targets and rapidly replace old ones. This is the case for ADSL and cable Internet. Concerning CDMA technology, all efforts are made to carry on with it in 3G, in order to always be innovating and to distinguish itself from other countries.

Main external factors to this indicator are topography and the absence of operators in some areas of the country. In Korea the topography is rather mountainous but 80% of the population lives in cities, which is positive for a rapid extension of new technologies and their reach of numerous people. Forgotten areas are scarce in Korea, maybe on some islands or in far-off villages. Operators did not hesitate to invest in low populated areas for 2 main reasons: The installation of their network in order to reach the rest of the population (in cities and agglomerations) did not cost as much as in other countries since many people are in the same areas. Second, the purpose was to gain a good image in low populated areas (recognition as “universal operators”).

- **End-users prices**

Figure 6 Fixed voice Telephony, 3 minute local call, average charge in €, source ITU

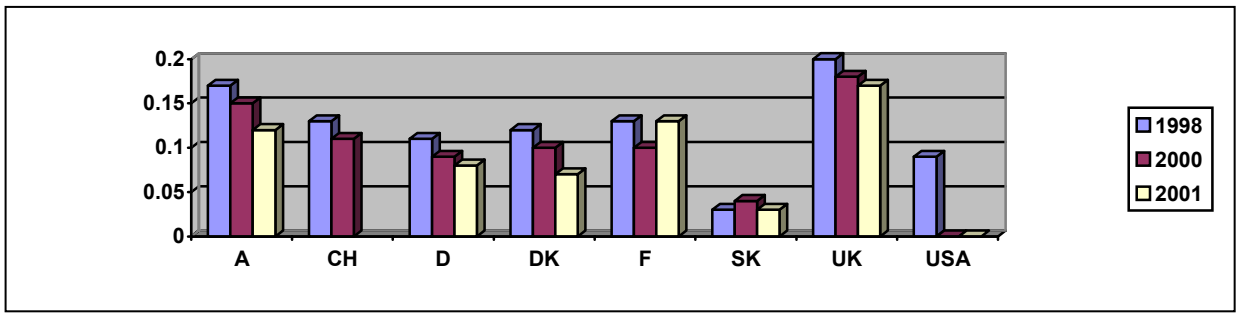


Figure 7 Mobile telephony, 3 minute local call, average charge in €, Source ITU

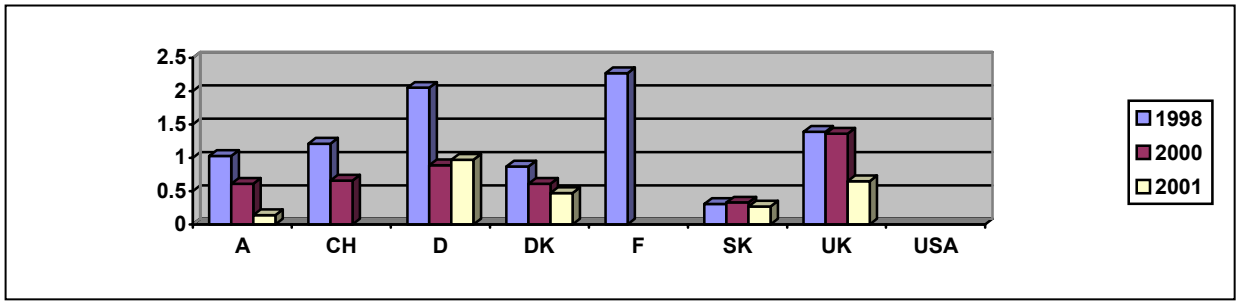


Figure 8: Average price for 20 hours Internet access, in €, source OECD

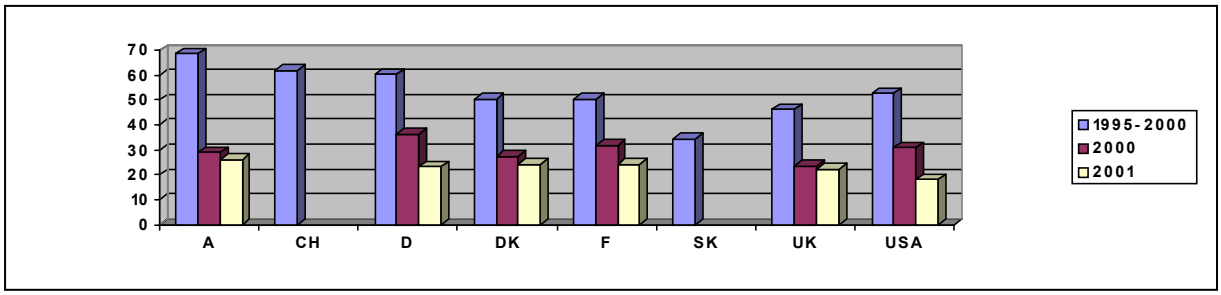
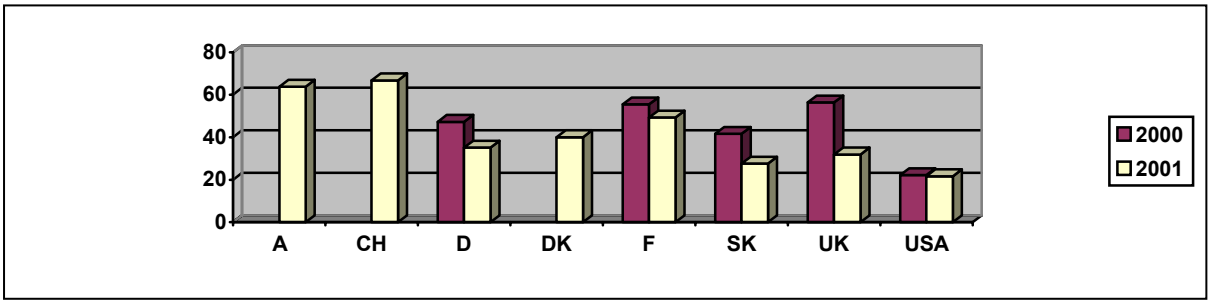


Figure 9: Average price for 40 hours Internet access peak times, in €, source OECD



- Regarding fixed telephony, we can observe that the price of a 3 minute local call remained stable between 1998 and 2001 (average 0.13 €) and above all very low compared to our other 7 countries (figure 14). As for long-distance calls, end-user prices are considered too low (indeed, they decreased by about 60% since liberalization) and companies active on this market segment claim they don't earn enough money. The long-distance fixed telephony market is a particularly unattractive market, very few companies want to enter it.

- As for mobile telephony, the same remark can be formulated (prices decreased only from 0.31 € to 0.27 € between 1998 and 2001 (figure 15)). In 2001, Austria was the only country to have cheaper prices than Korea in this segment. Globally, tariffs for mobile telephony decrease by 7% every year.

- Regarding Internet prices, some data are missing for Korea concerning the price for 20 hours Internet access (figure 16). We only know that it was of average 34.48 € between 1995 and 2000, which was the lowest price in our 8 countries at that time. Regarding the price for 40 hours Internet access, Korean prices decreased from 41.5 € to 27.5 € between 2000 and 2001 and are the second cheapest prices after the USA (figure 17).

Eventually we can describe the indicator "end-user prices" as good, since end-user prices are very low in Korea in comparison with other countries. The only critic we can mention concerns wholesale leased lines prices which are very expensive compared to other OECD countries (195 in 2002, OECD average being 100)[18] in contradiction with the notion which state that high leased lines hinder ADSL development.

[18] OECD Price index for basket of national leased lines of 2Mbits, 2002

The MIC should monitor wholesale prices better, especially leased lines prices. Otherwise and generally, the price monitoring policy is good, notably with the active surveillance of KT's local prices and SKT's mobile prices and did certainly impulse the drop of prices.

The MIC and the KCC cannot control some external factors such as price-wars between operators, cartel agreements between operators and the responsiveness of consumers to prices.

7.2 Public service

Availability of services throughout the country
In this regard, South Korea can be described as far in advance compared to other OECD countries:

- Population Broadband coverage (ADSL, Cable Internet, etc.) almost reaches 100% and households' broadband penetration already passed 60%, which is close to saturation point.
- VDSL is expected to reach 85% of Korean households by 2005
- Territory and population Mobile telephony coverage is 100%

These results are mainly caused by governmental policies which aim to promote Korea as a top leader in new technologies. Secondly telcos are urged to invest a part of their turnover in R&D (2%), which is positive for native development and improvement of new technologies but rather negative for telcos for which it is a big burden.

Regulatory bodies do not have a strong impact on this situation apart for the provision of legal certainty for telcos, for instance the necessity for them to invest in new networks. It must not be forgotten that legal certainty is mainly provided by the Confucian cultural factor which states that everything coming from the administration is good for the people, which means little opposition to state's decisions.

- **Quality of services**

No special quality problems are reported in Korea apart in mobile telephony (network disorders) as anywhere else. Therefore the indicator "quality of services" can be deemed as good.

The Telecommunications Performance Monitoring System (TPMS) carried out in 1999 by the MIC is a good example of what can be made by regulatory bodies in this area. Its aim is to audit call quality and customer service of mobile, local, international and long distance services. Results of these inquiries are yearly published and used to fine operators who do not meet service quality requirements.

From our point of view, Korean regulatory policies in this area are positive for consumers though some improvement could be introduced in matter of objective measurement tools for consumers and of evaluation of directory inquiries or value-added services. In addition we

consider that these prerogatives concerning quality monitoring should be transferred entirely to KCC which currently only has a customers' complaints center.

- **Information to the public**

This question is quite difficult to handle for us because most of the present information on regulatory websites (MIC and KCC) is in Korean language, which we do not master. We only had access to some English information which is clearly unsatisfactory and incomplete compared to other OECD non anglophone countries. On the one hand, we estimate that it is excusable since it is natural that most information can be found in native language and less in a foreign language. On the other hand, some efforts should be made above all for possible foreign investors, since the English language is the only current lingua franca and since the Korean language is unfortunately very scarcely taught in western schools.

Regarding information in English language, we can describe the indicator "information to the public" as reasonably bad. Regarding information in Korean language, we heard that no price indications are proposed by the MIC or the KCC on their websites. The emphasis is above all placed on quality services and regulatory and telecommunications news. Information about technologies does not seem to be primordial since most of Korean citizens are already well up to date about those subjects.

8. Conclusion

South Korea is often described as an economic wonder and this is also partly true for telecommunications: It is an Asian country, which achieved its economic development in a thirty year time period, which endured an amazing economic crisis in 1997-1998 and recovered after it. Other Korean particularities in relation with the telecommunications field are as followed:

Major positive aspects:

- High education level which allows new technologies to spread rapidly.
- Internet skills as a priority in schools.
- Excellent governmental R&D and IT policy.
- Fully privatized incumbent: A unique case in our 8 case studies with Denmark
- Broadband world's champion, mainly as a result of an excellent DSL network promotion by the government and of KT's important enhancement policy. Korea always wants to be in advance (ADSL, VDSL, wireless Internet, etc.)

Major challenges

- Rigidity and authoritarianism of the administration linked with Confucian heritage.
- Opacity of legislation.
- Nationalism: Domestic companies are always put forward. However there has been some improvement in foreign stakes limit.
- Fixed market highly dominated by KT Corp.
- Complexity of regulatory regime which consists of 2 bodies: The MIC and the KCC. The KCC is an integral part of the MIC and can be described as "half-independent".

– Patent lack of administrative means (in terms of personnel and sanction power). Current revisions of the TBA (applicable in April 2003) will improve the situation.

Globally speaking, Korean regulatory bodies have a rather mixed record. On the one hand, the regulatory system needs to be significantly revised (which seems currently underway), the number of operators is unsatisfactory and the incumbent is still extremely dominating. On the other hand, the leadership of Korea in IT fields tends to demonstrate the efficiency of government policies and results in a lesser degree of regulatory policies. Furthermore, a good service monitoring system contributes to give a positive image to regulatory bodies.

In addition to that, we have to insist on a point when we handle the Korean case: Decisions are mostly imposed without any negotiations or consultations (authoritarianism). The tradition of discussion does not belong to the Korean Confucian tradition; this fact can be seen as very negative for western people born in an opposite tradition; on the other hand, the legal and planning certainty, the possibility to impose decisions and national policies generated by this context is certainly the main cause of Korea's world IT leadership.

Currently 2 areas seem interesting to point out to light up the Korean regulatory future:

- Empowerment of the KCC: it is important for the KCC to obtain some of the MIC's regulatory competencies in order to become more autonomous. The target would be the transformation of the KCC into a real independent organization, which is difficult to foresee for now. Operators should have the possibility in the future to communicate with only one interlocutor responsible for most telecommunications regulatory issues. In our point of view Korea is telecommunications regulatory system is at a turning point.

- National policies in favor of technology: VDSL is already in installation in Korea and will replace ADSL more or less rapidly. Here again, Korea will be at the forefront of technological development. 3G CDMA2000 is going to be implemented in the next years and will be a world premiere.

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