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Deep Impact On The Mobile Communications Market: A Case Study In Applying The Regulatory Rules To Assess A Proposed Enterprise Combination

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Abstract

The face of communication technology is changing rapidly – fixed-line telephony is in decline, while fourth-generation fully-mobile services are coming to the fore and will be widely available in the near future. Some say, “You cannot store new wine in old bottles,” and “Let bygones be bygones,” but I suggest that it is by exploring the old that we are able to understand the new. Many countries’ merger guidelines were enacted years ago, and these guidelines will continue to be applied to specific merger cases now and in the future. The discussion of merger cases in high-innovation markets contributes not only to understanding the real-world enterprise’s competitive ability to survive the technology war, but also to confirming that traditional rules and assessment standards remain valid in a rapidly changing market and technological environment. In support of this argument, I describe current developments in the mobile communications market and introduce a Korean mobile communications firm merger case. I then review the criteria of merger assessments and analyse the competition issues. I discuss the exceptions where mergers are permissible and the corrective measures taken where they are not. I conclude that the traditional approach to the assessment of merger cases is still valid in a high-innovation market. The standards argued for do not necessarily represent a view as to what the law is or

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should be. Rather, they reflect an assertion regarding what firms may successfully argue in terms of legal, technological, and economical issues without running risks of antitrust liability under any conceivable standard. We should keep in mind that the fastest route to a destination is not always the best.

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1. Introduction

Ever since Alexander Graham Bell invented the telephone, communication technology has been developing. Now, no matter where you are, you can watch television or use hand-held mobile devices.¹ Given that the telecommunications, computers and television branches of the communications industry are converging,² this article examines a relatively recent Korean enterprise merger case – 2000 Kikyul 0129³ – to analyse the manner in which highly developed technology often affects legal decisions and forces legislative or regulatory changes. It argues that the rapid evolution of high technology has rendered existing legislation obsolete or even counter-productive; the reason being that in technology development the bottom line is that the interests of the consumers who use an innovator's results are closely related to the further development of that technology. In other cases, an enterprise's prosperity and positive and negative feedback rely solely upon the consumers' sacrifices.⁴ Thus, a discussion of this case will contribute to understanding not only the real-world enterprise's competitive ability to survive the technology war, but also the notion that old or traditional rules and assessment standards can properly be applied in a quickly changing "market."⁵ Although the case is Korean, I will apply both US and Korean competition law theory and precedents, thereby contributing to understandings of each country's legal system and competition policy.

In Part 2, I describe current developments in the US and Korean communications market, issues being wireless communications market trends, and whether antitrust policy distinguishes between a traditional market and a "high-innovation market."⁶ In

¹ In 2005, SK Telecom (SKT) launched a digital multimedia broadcasting (DMB) business with Korea Telecom Freetel (KTF) and launched its own satellite DMB services, See <http://kr.news.yahoo.com/service/news/shellview.htm?linkid=42&newssetid=495&articleid=2005093003102370385> (Last visited May 1, 2007). In October 2005, the *Korea Times* reported Korea as being at the forefront of a new mobile era in which Korean telecom companies could look towards continuing their pioneering role in practical applications of up-to-date mobile technologies; Korea has been faster than any other nation in jump-starting commercial versions of code division multiple accesses (CDMA). See <http://times.hankooki.com/lpage/tech/200510/kt2005100316265611790.htm> (Last visited May 1, 2007).

² See W K Viscusi & J M Vernon & J E Harrington, Jr, *Economics of Regulation and Antitrust*, (3rd ed, 2000), 487.

³ See 2000 *Kikyul* 0129, Korea Fair Trade Commission decision 2000-76, May 16, 2000. Notwithstanding the political and economic world controversy and the bitter allegations of citizen groups that invoked the changing of its recent policy, there has been surprisingly little scholarly analysis of the KFTC merger decisions.

⁴ R Gilbert & W Tom, "Is Innovation King at the Antitrust Agencies? The Intellectual Property Guidelines Five Years Later" (2001) 69 *Antitrust Law Journal*, 43, state that, "In a competitive industry the innovator benefits from the entire value of the new product. The monopolist, in contrast, benefits only to the extent that the new product generates profits that exceed the profits that the firm could earn from its existent product."

⁵ "Market" is used in this article in the economist's sense of abstract notion. It includes transactions between seller and buyer (or firm and subscriber).

⁶ "High innovation market" or "innovation market" is understood to mean a quickly developing market. I concede that arguments exist that it means a research and development market: R. Hoerner, "Innovation Markets: New Wine in Old Bottles?" (1995-1996) 64 *Antitrust Law Journal*, 50.

this case it is more important to discern the manufacture of innovative products than the output of innovation itself.⁷ In Part 3, I introduce a Korean merger case, the question being: What is the relevant market and the standard for market demarcation? As there are only five competitors in the Korean telecommunications market, we should consider whether a government agency should permit a merger between two of them where there is no significant economic efficiency overlap between their business strategies. In Part 4, I review the criteria applied in merger assessments; in most of the merger cases filed with the Korean Fair Trade Commission (KFTC) where beneficial effects of innovation were alleged, the cases would likely have been challenged on the grounds of adverse impacts on competition in markets for existing services. In Part 5, I analyse competition issues in the mobile communications market. Here, the issue is whether the traditional approach to the assessment of a merger case in a high-innovation market is still valid, as the innovation market analysis, if still valid, may find anticompetitive effects in markets where the merging firms are neither actual nor potential competitors.⁸ In Part 6, I discuss the exceptions to the “combination of enterprises,”⁹ raising two issues: (1) whether the merger of enterprises is made with a non-viable company; and (2) whether efficiency gains are achievable through the merger of enterprises. The standards argued for do not necessarily represent a view as to what the law is or should be, but rather what firms may successfully argue in terms of legal, technological, or economic issues without running the risks of antitrust liability under any conceivable standard. In Part 7, I describe the KFTC’s corrective measures, the question being whether action by the KFTC is preferred over action by the company seeking the merger, and what alternative methods may exist to correct mergers which are in violation of the rule. Finally, in Part 8, I explain how the topic remains controversial.

Under the antitrust law paradigm, the above issues may fit together harmoniously. These questions underpin basic analytical tools for decision making against merger cases before the government agency. For the case examination, government authorities and judicial officials must have full knowledge about the high-innovation market. I determine that mobile communications markets belong to that of high-innovation market, so Parts 2 and 3 are interlinked. Generally, a merger case should be assessed under the traditional competition law principles (i.e., merger guidelines) even though it falls into the category of highly innovative technology cases. Furthermore, it should be examined under the given statute (i.e., *Monopoly Regulation and Fair Trade Act*) and if there was any violation of the rule or statute then the corrective measure and verdict can be brought. Therefore, in order to smoothen the analysis of the issues, the arguments from Parts 4 to 7 are closely related and logically linked with each other.

⁷ See W J Baumol & D G Swanson, “The New Economy and Ubiquitous Competitive Price Discrimination: Identifying Defensible Criteria of Market Power” (2002-2003) 70 *Antitrust Law Journal*, 680.

⁸ See R J Gilbert & S C Sunshine, “The Use of Innovation Markets: A Reply to Hay, Rapp, and Hoerner” (1995) 64 *Antitrust Law Journal*, 75, 76-78; See also note 6.

⁹ This term is used more broadly than “mergers.” Under Art. 7 of the *Korean Monopoly Regulation and Fair Trade Act* (MRFTA), there are five types of combinations, including: 1. The acquisition or ownership of stocks of other companies; 2. The concurrent holding of an officer’s position in another company ... by an officer or employee (referring to a person who continues to be engaged in the affairs of the company, but is not an officer; hereinafter the same shall apply); 3. A merger with other companies; 4. An acquisition by transfer, lease, or acceptance by mandate of the whole or main part of business of another company, or the acquisition by transfer of the whole or the main part of fixed assets used for the business of another company ...; and 5. Participation in the establishment of a new company.

2. Current Developments In The Communication Market

Drawing a sketch of the US and Korean wireless communications market is worthwhile because it helps delineate the formative policy for both the regulatory agencies and market participants and it provides useful information to consumers. The growth and success of the wireless communications market has had a pervasive effect in linked industries as well as a far-reaching influence on the national economy.¹⁰ However, if competition in the market disappeared, consumers would face higher prices, lower quality or quantity of mobile wireless services, or the delayed launch of new mobile wireless services.¹¹ Moreover, the impact of regulations would certainly be both immense and lasting. The sector is also unique in the degree to which major money-spinner markets and industries depend on its development. To succeed in this market, all participants must keep abreast of market trends, current and next-generation levels of technology, and regulatory approaches.

2.1 United States of America

Generally, “the objective of wireless communications is to provide ubiquitous coverage, enabling users to access the telephone network for different types of communications needs, regardless of the location of the user or the location of the information being accessed.”¹² The wireless communications industry in the US is currently experiencing major upheavals,¹³ making it resemble an age of rival warlords. The mobile communications sector is among the “most competitive and least concentrated” in the world.¹⁴ The auctioning of an additional frequency spectrums pursuant to the *Telecommunications Act 1996*¹⁵ (1996 Act) has led to more service providers coming into the market and significantly increased competition among them.¹⁶ In order to survive, service carriers are likely to customise the user-friendly services they offer to hyper-differentiate themselves from other competitors. However, taken together, the biggest trend in the communications market is the replacement of fixed-line with

¹⁰ R Entner & D Lewin, “The Impact of the US Wireless Telecom Industry on the US Economy: A Study for CTIA-The Wireless Association” (2005), at 30.

¹¹ *US, State of CT, State of TX v Cingular Wireless Corp, SBC Communication Inc, AT&T Wireless Services Inc*, at 2 Civil No. 1:04CV01850 (RBW) [hereinafter *Cingular Competitive Impact Statement*].

¹² D Yen & D Chou, “Wireless Communications: Applications and Managerial Issues” (2000) 100/9 *Industrial Management & Data Systems*, 436.

¹³ S Kasturia, R Haimi-Cohen, & C A Warwick, “DSPs in Mobile Communication in the United States” *Proceedings of the 1997 IEEE International Conference on Acoustics, Speech, and Signal Processing* (1997), 283.

¹⁴ See International Telecommunication Union, *Competition Policy in Telecommunications: The Case of the United States of America, Document: CPT/05 11* (Nov. 18, 2002) (ITU Workshop Paper).

¹⁵ Pub. L. No. 104-104, 110 Stat. 56 (1996), substituted for the Communication Act of 1934 (47 US C. §151 (1934)).

¹⁶ In 2003, there were six national cellular providers (AT&T Wireless, Sprint RCS, Verizon Wireless, Voicestream, Cingular Wireless and Nextel), and a variety of regional carriers: See N Stach, “Wireless Local Number Portability and Its Effect on Competition: Can There Be Too Much of a Good Thing?” (2004) 12 *CommLaw Conspectus - Journal of Communications Law and Policy*, 235. By 2005, the four main wireless carriers – Cingular, Verizon Wireless, Sprint Nextel, and T-Mobile – shifted their focus toward massive data network usage. See <http://www.prweb.com/releases/2006/7/prweb407690.htm>. (Last visited Nov. 5, 2007).

wireless services as technology evolves. For example, there was considerable upheaval in the US wireless communications sector in 2002 when the 1996 Act enabled phone number portability, allowing customers to keep their original phone numbers after transferring to different carriers.¹⁷ One study shows that when the scheme was announced, 800,000 wireline consumers switched to wireless numbers, and with only 100 million consumer home phone lines left, the fixed-line market is receding rapidly.¹⁸

As with other countries' market structures, the US wireless communications market consists of services providing support to the wireless infrastructure, handset telephones, and network infrastructure,¹⁹ but the US has never nationalised its telecommunications industry.²⁰ As subscriber growth diminishes and the wireless subscriber market reaches maturity, service providers may change their competitive tactics by dropping prices associated with new customised applications and added service plans such as wireless internet access, text messaging, instant messaging, ringtones, mobile games, location-mapped emergency call services, and audio- and video-messaging services.²¹ This trend together with fourth generation (4G) Wi-Fi technologies will drive the future US communications market.²² Although land-line telephony does not suffer from wireless's technological disadvantages such as dead zones, poor reception or dropped calls, the overall viability of wireless communication is no longer in doubt and in fact, is clearly indicated as a key driver of the communications industry platform and transmission.²³ Figure 1 shows the competing wireless standards in the US.

¹⁷ P Howe, "Wireless Number Portability to Start Changing Carriers Could Prove to Be Problematic" (Oct. 27, 2003) *San Francisco Chronicle*, at E-2, at: <http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2003/10/27/BUG9Q2J11F12.DTL&type=business>. (Last visited Nov. 11, 2007).

¹⁸ See http://www.gii.co.jp/english/fs23426_communications_services.html (Last visited Nov. 12, 2007).

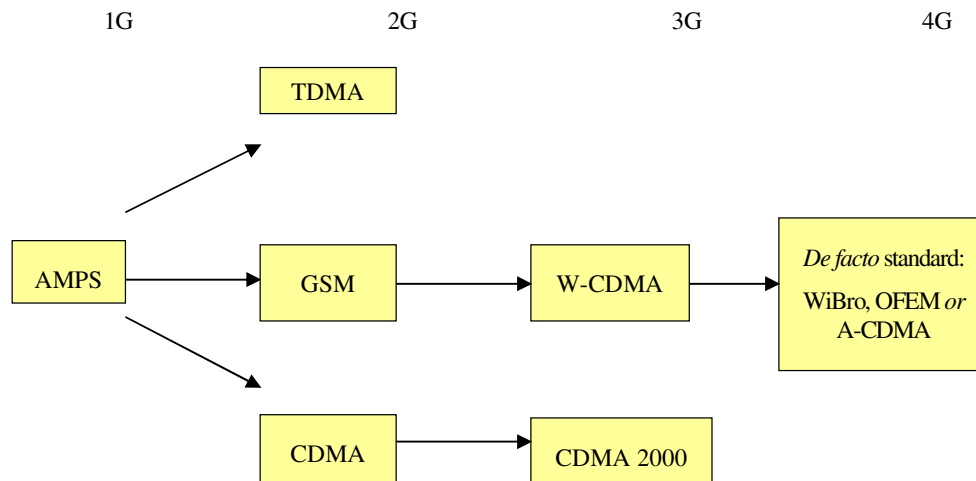
¹⁹ See <http://pulse.tiaonline.org/article.cfm?id=2138> (Last visited Nov. 12, 2007).

²⁰ See ITU Workshop Paper, note 14, at 4.

²¹ See Frost & Sullivan, "U.S. E9-1-1 Market Insight #6847-63" (2003) at 1-19 [hereinafter *Frost & Sullivan Report*].

²² See <http://pulse.tiaonline.org/article.cfm?id=2138>. (Last visited Nov. 12, 2007). The fourth generation wireless communication is not yet defined, but analog mobile phones are considered as first generation, digital mobile phones as second generation, and IMT-2000 as third generation mobile phone service. For the 4G post IMT-2000 communication service, it may be possible to use satellite, LAN, or the internet with only one phone terminal. If this dream technology comes true, the entire service including audio, video, multimedia (voice and image data), internet data, audio mail, and instant messaging (IM) could be available through a mobile phone. The difference between IMT-2000 and 4G, and the former generation, 3G, is that IMT-2000 is a high-speed, multi-service while 4G is a super high-speed multimedia service. The maximum transmission speed of IMT-2000 is 2Mbps at the pose situation, while the 4G is targeted at more than 10 times as fast as 20Mbps. This is future mobile communication service that possibly could be applicable to image and internet broadcasting. As it is considered the current technology development level, it may be commercialized in only a couple of years.

²³ It has been argued whether wireless is an alternative to landlines. One commentator noted that wireless cannot be substituted for landline service in the near future, but on the other hand, other commentators predict that with the advent of new technology, wireless service will become an alternate to existing wireline services: See E Thoreson, "Farewell to the Bell Monopoly? The Wireless Alternative to Local Competition" (1998) 77 *Oregon Law Review*, 327-28. One independent telecom analyst said "wireless phones are becoming the main phone line for many people, the industry has to make sure that customers have the same kind of reliability as with landlines": See P LA Monica, "Wireless Gets Blacked Out Too:

Figure 1. Competing Wireless Standards²⁴

With the introduction of new technologies such as 4G wireless services, WiBro, or Wi-Fi and WiMAX in the communications market, service providers and broadband operators will continue to see an increase in both wireless infrastructure and higher value-added revenue. Wireless services can also capitalise on location-mapped emergency call capabilities to win over customers who are averse to mobile services because of safety concerns.²⁵ Further, service operators can also make handsome profits by pursuing “wireless internet applications” such as the hugely successful data-only broadband wireless. Such successful commercial innovation that enhances general

Trying to Use Your Cell Phone During the Blackout was Nearly Impossible. What Went Wrong?” (Aug. 16, 2003) *CNN/Money* at: <http://money.cnn.com/2003/08/15/technology/landlines/index.htm> (Last visited Nov. 12, 2007).

²⁴ For more on this, See Cingular Competitive Impact Statement, note 11, at 5-7. First-generation (1G) communication networks were developed and installed in the mid-1980s. All 1G systems and devices used analog technology that relied on Frequency Division Multiple Access (FDMA) methods to create multiple radio channels for multiple users. The 1G technology standards include the American Mobile Phone System (AMPS). Second-generation (2G) communication technology standards were developed and installed only one decade ago. This generation’s mode has shifted from analog to digital technology, primarily using Time Division Multiple Access (TDMA), Global Standard for Mobile (GSM), and Code Division Multiple Access (CDMA) methods to create multiple access channels for subscribers. Generally, 2G technology standards have achieved significant improvements in system capacity, service quality, and information security among other features as compared with prior generation. Although 2G systems continue as voice communication-focused, this would be the last generation to overlook the fact that communication technologies have successfully brought the wireless voice services to mass users. Third-generation (3G) technology standards are currently being developed under the umbrella of ITU’s standard of the International Mobile Telecommunications 2000 (IMT-2000). The dominant standards of communication engineering have adopted CDMA technology to create access channels for users while the legacy of TDMA systems such as GSM will be evolved to provide 3G system applications. The major improvements targeted by the 3G technology standards include higher frequency spectrum efficiency, better compatibility among different system standards, and more capacity and higher data throughput. The ultimate goal of this generation is to provide sophisticated Internet and multimedia services to the mobile telephone users.

²⁵ See http://www.gii.co.jp/english/fs23426_communications_services.html (Last visited Nov. 10, 2007).

consumer welfare and “economies of scale,” especially when they lead to lower prices and new services, have enabled the wireless segment to stay profitable even though its revenue was threatened by price-based competition. One example is that “while the average subscription price per minute dropped from 43.9 cents to 10.3 cents, the minutes per user grew from 140 to 483.”²⁶

To support the mobile wireless communications business and facilitate technological innovation in the wireless communications markets (e.g., enhanced voice services quality and data and image file transport), wireless communications firms seek mergers as a way to enable them to continue in businesses and prevent further reduction of profits despite poor market conditions in the industry. One survey reported that “wireless subscribers increased from 109.5 million to 128.5 million during the year of 2001.”²⁷ Another study reported that there were 130 million wireless subscribers in the US in 2003, with 28,000 being added per day.²⁸ Note that technological innovations play a pivotal role in this dynamic story. Advancements in communication technology have played a key role in the New Economy, but they have also triggered a simultaneous avalanche of information whilst creating heightened consumer expectations.

Because of the expense and time involved in establishing a network and obtaining one of the limited number of spectrum resources licences regulated by government agencies, entry by a new player into the market would be extremely difficult. Even existing firms are seeking to merge as the market becomes increasingly competitive. The US wireless telecommunications market has consolidated rapidly, leaving only four major players: Cingular, Verizon Wireless, Sprint Nextel, and T-Mobile. These are considered nationwide carriers because they control licences in many areas across the country, giving them something approaching a national “footprint.”²⁹

From a legal standpoint, competition in the telecommunications market has become a race among companies to deliver bundled communications services, including wireless telephony, wireless messaging and wireless internet. “The increase in frequency spectrum and the increase in number of service providers will both lead to increased competitive pressures in the industry.”³⁰ Still, new competitive pressures are bearing down on all market participants. In this situation, where competition policy concepts are applied in the context of antitrust law enforcement and sector-specific telecommunications regulation issues arise, what is the appropriate balance between regulation and deregulation policy?

The harsh reality is that the US Federal Communications Commission (FCC), which was created, directed, and empowered by Congressional statute,³¹ has outlived its usefulness as an agency set up to preserve the now discredited “regulated monopoly”

²⁶ *id.*

²⁷ ITU Workshop Paper, note 14, at 11.

²⁸ Frost & Sullivan Report, note 21, at 1-11, 1-23.

²⁹ ITU Workshop Paper, note 14, at 11.

³⁰ See L. Dichiara, “Wireless Communication Facilities: Sitting For Sore Eyes” (1998-1999) 6 *Buffalo Environmental Law Journal*, 3; See also Kasturia ICASSP 97, note 13, at 283, and http://www.researchandmarkets.com/reportinfo.asp?report_id=303150 (Last visited Nov. 11, 2007).

³¹ Communication Act of 1934, 47 US C. §§151, 154.

paradigm. The FCC was incorporated as the successor to the Federal Radio Commission; it is charged with regulation of all non-federal government use of the radio spectrum (including radio and TV broadcasting), and all interstate telecommunications (wire, satellite, and cable), as well as all international communications that originate or terminate in the United States. Unlike certain executive branch agencies, the FCC has the ability to issue orders and rulings with the force of law.³² In the arena of wireless communications, the Wireless Telecommunications Bureau (WTB) handles nearly all FCC domestic wireless telecommunications programmes, policies and outreach initiatives.³³ The US regulatory structure offers three different licences for mobile services: cellular, personal communications service (PCS), and specialised mobile radio (SMR).³⁴ As most communications markets lie between two extreme situations (collusion/negotiation and bitter competition), these are important factors in US telecommunications policy. Some may be saying that “sunk investments” have introduced a “winner’s curse” to the wireless market monopoly game; however, as the situation becomes more “winner-take-all,” so the competition law argument will be of more relevance. As the expanded scope and heightened level of customer demands place more stress upon communications operators, the standards of competition in any domestic market should be shaped by consideration of several factors, including licensing policy, service providers’ business strategies, and technology standardisation policy.

Currently, communication technology has reached the 4G level via the market players’ technological innovations, but a very significant investment of resources is still required to develop commercially viable technology. Unless otherwise competitively regulated, if one company wins the technology development race for the next generation of communications, it will enjoy all fruits of the market, including advantages in competition such as technology standards decisions, service prices, etc. *In extremis*, only a couple of companies who win the technology development races may survive in the global communications market.

US competition policy in the communications business sector has three key aspects: (1) there is no single policy, created and implemented at a single point in time; (2) there is no single agency or institution in charge of competition policy, but rather it is the result of a constant interplay between multiple agencies and industry actors, at multiple levels of jurisdiction, both horizontally (within the federal government) and vertically (between state, local and federal governments); (3) the US system mixes both broad competition law, which applies to any economic activity, with sector-specific regulation.³⁵ Broadly, the mobile wireless telecommunications service is a relevant product market under s. 7 of the Clayton Act, 15 US C. §18. The US communications market is currently in transition to a reunified market in which it has always had competition as a goal.³⁶ In this situation, three basic methodological steps are required

³² ITU Workshop Paper, note 14, at 19.

³³ See <http://wireless.fcc.gov/organization/> (Last visited Nov. 12, 2007).

³⁴ ITU Workshop Paper, note 14, at 11.

³⁵ For more on these three aspects, *See id* at 14.

³⁶ T Hazlett, “Is Federal Preemption Efficient in Cellular Phone Regulation?” (2003) 56 *Federal Communications Law Journal*, 161.

in the antitrust regulatory process: (1) define the relevant geographic markets; (2) define the service carriers that have dominant market power in the relevant geographic markets; and (3) identify remedies to be applied to service providers having dominant market power to increase the level of competition.

With the 8 April 1997 launch of the new regulatory framework under the 1992 Horizontal Merger Guidelines which revised s. 4 regarding “efficiencies,” the concepts of dominant market power and position are entangled in a jungle of overhead wireless communication lines, with both concepts starting to be used interchangeably. As regulatory agencies such as the FCC, Federal Trade Commission (FTC) and Department of Justice (DOJ) try to analyse the competition level of the wireless communication market and define the service carriers having dominant power and position, they are taking various criteria into consideration.³⁷ Note that:

*... because the US competition policy approach involves both antitrust and sector-specific regulation, there is a balance between ex-ante and ex-post approaches. ... FCC and state regulation is traditionally ex-ante. [In contrast] antitrust regulation—with the exception of merger pre-notification and review—involves ex-post enforcement. ... Justice Department officials can investigate violations of the Sherman and Clayton Acts only after those violations have occurred. ... Prevention of collusion and price-fixing relies on the threat of law enforcement or civil litigation, not administrative fiat.*³⁸

This multiple-check system has made a great contribution towards safeguarding consumer welfare so far. However, interestingly, the communications companies are undeterred by the uncertainties: “the future growth of consumer-based mobile communication systems will be tied closely to radio spectrum allocations and regulatory decisions that affect or support new or extended services, as well as to consumer needs and technology advances in signal processing and access, and network areas.”³⁹

2.2 Korea

In the late 1990s, the new economy emerged as a central feature of the global economy, spreading like wildfire as an important issue in Korea.⁴⁰ But what is new about the

³⁷ The proposed example of criteria are (1) firm’s market share; (2) total size of firm; (3) technological superiority; (4) control of infrastructures that cannot be duplicated easily; (5) R&D scale; (6) technological advantages; (7) service and products differentiation; (8) economies of scale and scope; (9) possibility of vertical integration; (10) advanced distribution and sale network; (11) lack of potential competition; (12) expansion obstacles; etc.

³⁸ ITU Workshop Paper, note 14, at 19.

³⁹ Yen & Chou, note 12, at 438.

⁴⁰ See Baumol & Swanson, note 7, at 681; See also Pitofsky, “Challenges of the New Economy: Issues at the Intersection of Antitrust and Intellectual Property” (2000-2001) 68 *Antitrust Law Journal*, 913, and OECD Directorate for Financial, Fiscal and Enterprise Affairs Competition Committee, Merger Review In Emerging High Innovation Markets 101, DAF/COMP(2002)20 (2003) available at: http://icps.ftc.go.kr/data/master/2005/12/000338/000338_01.pdf (hereinafter OECD Competition Committee).

“new economy”? Despite recent opinions denying the concept following the erosion of start-up companies, volatile stock prices, and economic recession,⁴¹ there seems to be little disagreement that revolutionary developments in information and communication technology have brought about a paradigm shift in the economic system which is believed to have triggered the advent of the new economy.⁴² The “hallmarks” of the new economy can be identified as technology, globalisation, market power, and speed.⁴³ But the most significant change has been the diminishing importance of traditional production factors such as land, labour and capital, and the rising centrality of knowledge and information as sources of competitiveness and wealth creation.⁴⁴

Posner notes that the traditional industries are characterised by multi-plant and multi-firm production, stable markets, bulk order and mass production, heavy capital investment, modest rates of innovation, slow and infrequent entries and exits, and labour-intensive industries.⁴⁵ While the importance of up-to-date working knowledge and information as emerging production factors is becoming evident across the whole range of industries along with the development of computer technology, it is particularly apparent in high-innovation markets such as those involving information technology and communications.⁴⁶ Undoubtedly, a common characteristic of market players in high-innovation markets is their allocation of substantial resources to R&D together with a high degree of dependency upon intellectual property rights and well-educated human resources rather than raw materials, because knowledge and information are such crucial production factors.⁴⁷ Ironically, a current innovation market is not only a product market, but also a technology market, as no one buys or sells intellectual property in an innovation market where firms teeter on the edge of viability.⁴⁸ Under the market, intellectual property is characterised by heavy fixed costs relative to “marginal cost,” which is defined as the increase in the firm’s total cost that results when it increases its output by one unit.⁴⁹

Accordingly, IP “is often very expensive to create, but once it is created the [reproduction cost] is low,” whereas the time needed to make additional copies is

⁴¹ R Posner, “Antitrust in the New Economy” (2000-2001) 68 *Antitrust Law Journal*, 925.

⁴² See OECD Competition Committee, note 40, at 101, and L. Summers, “Competition Policy in the New Economy” (2001) 69 *Antitrust Law Journal*, 353.

⁴³ See Summers, note 42, at 355, and R Rapp, “The Misapplication of the Innovation Market Approach to Merger Analysis” (1995-1996) 64 *Antitrust Law Journal*, 32, who states that market power in innovation markets is exercised by R&D cutbacks in the same way that output restriction in product markets leads to consumer harm.

⁴⁴ Viscusi et al, note 2, 210-12, and OECD Competition Committee, note 40, at 101.

⁴⁵ Posner, note 41, at 926.

⁴⁶ OECD Competition Committee, note 40, at 101.

⁴⁷ See Hoerner, note 6, at 49, OECD Competition Committee, note 40, at 101, Rapp, note 43, at 27, W K Tom & J A Newberg, “Antitrust and Intellectual Property: From Separate Spheres to Unified Field” (1997-1998) 66 *Antitrust Law Journal*, 167, and N Mankiw, “Principles of Economics” (2nd ed, 2001), 398.

⁴⁸ R W Davis, “Innovation Markets and Merger Enforcement: Current Practice in Perspective” (2003-2004) 71 *Antitrust Law Journal*, 677, at 679.

⁴⁹ See Posner, note 41, at 926-27, Baumol & Swanson, note 7, at 667 n.13, and Mankiw, note 47, at 278.

shortened.⁵⁰ In addition, various firms' vigorous efforts in R&D generate rapid technological innovations and shortened product life cycles in the market "while creating a business environment where market [participants] unable to promptly respond to changes cannot avoid being weeded out."⁵¹ Such characteristics of high innovation markets can have profound effects on the shape of competition, as well as consumer social welfare.⁵² Thus, "the economic underpinnings of antitrust policy consist of propositions that relate competition to economic efficiency and consumer benefit, [b]ut those propositions strictly hold true only in a static world;" regardless of their sphere, they are no longer true in a world of technical change. But "does this make traditional antitrust policy and rules inapplicable [and thus the results unanticipated] when they are applied to innovative industries?"⁵³ It has been stated that what seems to work best today is a solution that is more market-oriented and decentralised than we used a decade ago.⁵⁴ Free market entry by a firm's highly-developed "new technologies ... has opened the possibility of dynamic competition in which the dominant positions enjoyed by existing market players are collapsed, and earlier leading market players are replaced by new ones."⁵⁵

If a high innovation market fulfilled only the above-mentioned positive functions, it could serve as a highly beneficial driving force for reform in Korea's communication markets where monopolistic market structures prevail.⁵⁶ However, as many practising lawyers, judges, economists and antitrust officials are already aware, high-innovation markets also have generic characteristics such as anticompetitive elements.⁵⁷ In short, market properties such as network effects and switching costs operate based on deep-pocket factors as barriers to entry.⁵⁸ This results in a tendency to entrench the market dominance of "first mover's advantage."⁵⁹ Furthermore, "first movers can [freely] maintain their dominant position [in the market without slavish adherence to customer herd behaviour by] monopolising intellectual property rights as the key to generating knowledge and information, or by controlling the networks through which knowledge and information [is] distributed."⁶⁰

⁵⁰ See Posner, note 41, at 926-27.

⁵¹ See Gilbert & Tom, note 4, at 45, and OECD Competition Committee, note 40, at 101.

⁵² See OECD Competition Committee, note 40, at 101, and Viscusi et al, note 2, at 89.

⁵³ F Fisher, "Antitrust and Innovative Industries" (2000-2001) 68 *Antitrust Law Journal*, 559.

⁵⁴ See Summers, note 42, at 355.

⁵⁵ OECD Competition Committee, note 40, at 101. See also R Starek III & S Stockum, "What Makes Mergers Anticompetitive? "Unilateral Effects" Analysis under the 1992 Merger Guidelines" (2000-2001) 63 *Antitrust Law Journal*, 804, who state that, "in order to distinguish a dominant firm from a firm that has a high market share but may not be able to exercise unilateral market power, [some commentators] refer to the latter as a 'leading' firm".

⁵⁶ OECD Competition Committee, note 40, at 101.

⁵⁷ Davis, note 48, at 677.

⁵⁸ See http://en.wikipedia.org/wiki/Barriers_to_entry (Last visited Apr. 14, 2007).

⁵⁹ OECD Competition Committee, note 40, at 101.

⁶⁰ *id.*

In effect, the first mover could twist the market around his/her finger. However, the KFTC has been developing policies to “prevent such potential adverse effects.”⁶¹ First, after watching market situations, the KFTC established the Review Guidelines on the Unjust Exercise of Intellectual Property Rights in 2000 to handle this subject.⁶² The aim of establishing these guidelines was to provide a specific guide for the application of competition law so that IP protection “would not stray from its original purpose of encouraging” firms to invest, in particular by being misused to hinder market competition for products or technology.⁶³ While this was under way, “the KFTC set up another regulation which stipulates that firms who own essential facilities for production and sales in upstream or downstream markets should not limit access to their facilities by other firms.”⁶⁴

Even in terms of enterprise combination and merger assessment (and without any sudden policy switch), the KFTC has explicitly clarified its keynote directions of ensuring long-term competition by taking into account the dynamic efficiencies framework brought about by technological innovation. However, no merger cases can be viewed as significant in such terms in Korea’s high-innovation markets. “Although there have been numerous cases of mergers among small-scale venture capitalist companies [in the last quarter-century,] none have been of much importance to competition policy.”⁶⁵ Consequently, as an exception to the 1998-6 Guidelines, as amended, the KFTC has no merger assessment guidelines or regulations other than the conventional ones, which it can apply specifically to high-innovation markets.⁶⁶

While the merger of Korea’s mobile communications companies discussed below “bear[s] many characteristics typical of high-innovation markets,” this merger still cannot be considered to have occurred in “a typical high-innovation market as such.”⁶⁷ Though the merger of SK Telecom and Shinsegi Telecom – the last merger case of the twentieth century in Korea – “was assessed according to existing guidelines,” this merger may provide incipient lessons in many issues in the assessment of mergers in high-innovation industries, because the diverse characteristics relevant to high-innovation markets were taken into account in the review process of the tribunal.⁶⁸

⁶¹ *id.* In the same manner as the FCC in the US, the KFTC promotes competition, “strengthening consumers’ rights, creating a competitive environment for SME’s and restraining concentration of economic power: See http://www.ftc.go.kr/eng/about_kftc/about_us.php (Last visited Jun. 20, 2007).

⁶² KFTC enacted this rule in August 30, 2000, with these guidelines aiming to facilitate fair business practices and enhance consistency and predictability of application of laws by suggesting the types of activities that are deemed to be unfair business practices so as to distinguish from those that would be difficult to consider as violating the law. See OECD Competition Committee, note 40, at 101.

⁶³ OECD Competition Committee, note 40, at 102.

⁶⁴ *id.*, at 102.

⁶⁵ *id.*, at 102.

⁶⁶ *id.*, at 101-02.

⁶⁷ *id.*, at 102.

⁶⁸ See *id.*

3. A Merger In The Korean Mobile Communications Market

Regardless of the product or service market, “[o]ne of the virtues of a competitive market is that each seller or provider has the chance to succeed by providing the [consumer] public with cheaper or better products [and services].”⁶⁹ In order to maintain those ground rules, antitrust policy should aim at promoting product efficiency. Thus, in preventing a market from becoming concretely anticompetitive, government enforcement plays a key role in monopoly policy by preventing company mergers from harming consumers.⁷⁰ The consumer sustains injury when a service provider “charges high prices, but is arguably benefited if the [service provider’s] prices are low, even when its profits are substantial.”⁷¹ This proposition is quite possible even though the services are provided in the same market. Whenever an antitrust agency permits a merger to go forward, it should check whether the service provider is being mindful of the consumer’s wallet, as it must necessarily determine that the merger will not substantially harm consumer welfare.⁷² At this time, the calculation of market share is not only a starting point, but also a bottom line for determining whether monopoly power exists in the market. “However, without a definition of [the] market, there is no way to measure” a merging firm’s ability to destroy or reduce competition.⁷³ Accordingly, I will examine a case involving a merger in the Korean mobile communications market which describes the relevant markets, and explain how the standard for telecommunications market demarcation will be examined.

3.1 Background

In late 1999, the mobile communications company that held the largest market share, calculated on the basis of subscriptions (market share), took over, the third-ranking company.⁷⁴ The acquiring company, SK Telecom (SKT), held 42.7% of the market share at the end of 1999, while the company acquired, Shinsegi Telecom (Shinsegi), held a 14.2% market share.⁷⁵ This was a horizontal merger from a competition law

⁶⁹ S Ross, “Network Economic Effects and the Limits of GTE Sylvania’s Efficiency Analysis” (2000-2001) 68 *Antitrust Law Journal*, 959, 960.

⁷⁰ OECD Directorate For Financial, Fiscal And Enterprise Affairs Competition Committee, Competition and Regulation Issues in Telecommunications 223, DAF/COMP(2002)6 (2002).

⁷¹ Baumol & Swanson, note 7, at 682.

⁷² See W J Kolasky, “The FCC’s Review of the Bell Atlantic/NYNEX and SBC/AMERITECH Mergers: Regulatory Overreach in the Name of Promoting Competition” (2000-2001) 68 *Antitrust Law Journal*, 771, at 784.

⁷³ *Walker Process Equip Co v Food Mach. & Chem. Corp*, 382 US 172, 177 (1965); See also G Werden, “Assigning Market Shares” (2002-2003) 70 *Antitrust Law Journal*, 70 (hereinafter Werden III).

⁷⁴ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 3. On December 21, 1999, petitioner entered into a contract with POSCO to purchase stock that POSCO owned (51.19% of Shinsegi Telecom stock), and then two days later filed a combination of enterprise at the KFTC. Before it entered into the contracts, on December 20, 1999, POSCO purchased 23.53% of the Shinsegi Telecom stock from KOLON (the above 51.19% stock included this 23.53% stock.) On December 21, 1999, petitioner paid 1 trillion 874 billion KRW in cash to POSCO for the 51.19% stock; in addition, petitioner would newly issue 6.5% of its stock and deliver it on December 21, 1999. On February 23, 2000, petitioner was concurrently holding an officer’s position in Shinsegi Telecom.

⁷⁵ OECD Competition Committee, note 40, at 102.

perspective because it merged rivals in the same market.⁷⁶ As SKT is a stock corporation whose core business area is mobile phone communication service provision, the company falls under the Korean MRFTA.⁷⁷ Article 2.1 provides that the term “enterprise” means a juristic person who conducts a manufacturing, service, or any other business. Article 2.5 provides that any officer, employee, agent, or other person who acts in the interest of the enterprise shall be deemed as an enterprise with regard to the application of provisions pertaining to the enterprise’s organisation.

3.2 Mobile Communication Market

The world is very different now from what it was when the statutes were enacted, but determining whether a firm has monopoly power in the market remains crucial, and involves two inquiries: (1) what is the relevant market?; and (2) what is the relevant product market?⁷⁸ The relevant market consists of the products and the geographic area in which these products are produced and traded.⁷⁹ According to the one guideline, “[t]he relevant market of the product comprises all those products [or services which are] interchangeable or substitutable by the consumers in terms of characteristics,⁸⁰ quantity, service time, frequency in use, prices, and intended uses.⁸¹ Geographically, the relevant market consists of the area where the products are consumed and “where the conditions of competition are sufficiently homogeneous,” such as DVDs, films and books.⁸² “[This] can be distinguished from neighbouring geographic business areas especially because the given competition conditions and market structures substantially differ [in various ways].”⁸³ Similarly, “the notion of geographic market also covers services.”⁸⁴

What is the character of the mobile communications market, recalling that mobile communications means the subscriber carries and uses the telephone while on the move? This market includes cellular mobile phones, analogue and digital, and PCS. Cellular and PCS handsets send out and receive electromagnetic waves in different

⁷⁶ Viscusi et al, note 2, at 191.

⁷⁷ Korean Monopoly Regulation and Fair Trade Act, enacted by Law No. 3320, December 31, 1980.

⁷⁸ See Keith N Hylton, “Antitrust Law-Economic Theory & Common Law Evolution” 279-84 (2003), at p 230-1, 320-23.

⁷⁹ See Viscusi et al, note 2, at 464, Hoerner, note 6, at 50, and See:

http://en.wikipedia.org/wiki/Relevant_market (Last visited Jun. 1, 2007).

⁸⁰ See <http://www.globalcompetitionforum.org/regions/europe/Romania/Eguide~1.pdf> (Last visited Jun. 1, 2007).

⁸¹ See Viscusi et al, note 2, at 205-12.

⁸² See *United States v E.I. DuPont*, 351 US 377, 395 (1956), and

http://ec.europa.eu/comm/competition/antitrust/relevma_en.html (Last visited Jun. 1, 2007)

⁸³ F Boisseleau, *The relevance of the relevant market for market power in power markets* 4 (2002); Swedish Competition Authority states that “[in] determining the geographic market, transportability and the costs thereof are particularly important.” See http://www.kkv.se/t/Page_907.aspx. (Last visited Sep. 15, 2007).

⁸⁴ See <http://www.globalcompetitionforum.org/regions/europe/Romania/Eguide~1.pdf> (Last visited Jun. 1, 2007).

frequency bands (Cellular 800 MHz, PCS 1,800 MHz), but generally a user is not aware of the functional distinction, and notwithstanding this difference, both are in the same market.⁸⁵ Because the growth of the Korean domestic PCS market is closely connected with the cellular market, a major substitution of demand exists between each enterprise by level of charges and supplied service, wireless connect method, channel bandwidth (approximately 1.23 MHz per channel),⁸⁶ service area, target services (high-speed vehicle, pedestrian), supplied service (voice, data), design or shape and price of phone (KRW 250,000-400,000 level), and processing fees for new subscribers. The two systems' service charge structures are similar. The fixed-line telephone (inter-city call, toll call, and international call) market and mobile phone market may be distinguished from each other by many characteristics such as usage, investment in equipment and use of communication network, charges, and business competitors. To provide Wireless Calls, CT-2 Phone, and Trunked Radio Systems (TRS), Wireless Data Service uses a frequency assigned by the government, with services similar to mobile phones. However, these fall into a different market because they differ from mobile communication in function and usefulness.⁸⁷

The International Mobile Telecommunications-2000 (IMT-2000) standard was excluded from the definition of the mobile communications market because it was not in operation when the KFTC rendered a decision on this company merger case.⁸⁸ Communications by land-line and internet-based media were also viewed as outside the definition of relevant market because they have a different connection diagram and are immobile.⁸⁹ The results revealed that besides the two cellular communications companies, SKT and Shinsegi, three PCS providers competed in the mobile communications market in Korea; Korea Telecom Freetel Co, (KTF), LG Telecom Co, (LGT), and Hansol M.com (Hansol).⁹⁰ Table 1 shows each player's market share under three different standards in the mobile communications market. Except for the leading company, SKT, there was little difference among the participants in terms of subscribers, earnings and call rates.

Table 1. Market Share by Subscribers, Sales Earnings and Call Rate⁹¹

⁸⁵ Ibid Figure 2.

⁸⁶ Ibid Appendix Table.

⁸⁷ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 5.

⁸⁸ See OECD Competition Committee, note 40, at 102. IMT-2000 ... are third-generation mobile systems which [were] scheduled to start service around the year 2002 subject to market considerations. [By means of one or more radio links,] they provide access to a wide range of telecommunications services supported by the fixed telecommunication networks and to other services which are specific to mobile users. A range of mobile terminal types link to terrestrial and/or satellite-based networks, [while] the terminals may be designed for mobile or fixed use. [Thus] the IMT-2000 vision encompasses complementary satellite and terrestrial components. Close integration between the satellite and terrestrial components of the IMT-2000 will facilitate the deployment of mobile services via satellite, enabling users to roam on satellite networks and to gain access to service where there is no terrestrial system in place. See <http://www.3g-generation.com/imt-2000.htm> (Last visited Nov. 10, 2007).

⁸⁹ See *id.*

⁹⁰ See *id.*; See Viscusi et al, note 2, at 489.

⁹¹ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 5.

	SKT	Shinsegi	KTF	LGT	Hansol	Total
Subscriber (person)	9,731,766	3,239,134	4,162,549	3,041,094	2,614,656	22,789,199
(30/11/1999)	42.7%	14.2%	18.3%	13.3%	11.5%	100%
Subscriber (person)	11,268,948	3,608,813	4,678,726	3,508,242	3,042,187	26,106,916
Sales earnings (KRW billion)	42,250.9	12,523.3	14,645.4	10,229.3	8,885.6	86,534.5
(1999)	46.5%	14.5%	16.9%	11.8%	10.3%	100%
Telephone traffic (Call rate)	81,652.0	20,317.3	27,920.0	20,440.1	17,470.0	167,799.4
(1999)	48.7%	12.1%	16.6%	12.2%	10.4%	100%

According to the KFTC decision, the first mobile communications service in Korea was started by the Korea Mobile Communication Co, (KMC) in April 1984. The SK Group acquired KMC in December 1994, in accordance with “The Public Company Privatisation Plan” controlled by the Korean government. In April 1996, a second enterprise, Shinsegi Telecom, entered service, with competition thus emerging for the first time in the Korean mobile communications market. In March 1997 KMC changed its name to SKT. In October 1997, three PCS enterprises started full-time service nationwide, so five companies (including two cellular communications firms) were competing in the Korean telecommunications market. As of 1999, the Korean mobile communications market size was KRW 8.6 trillion, equivalent to USD 8.6 billion, with the leading company being SKT. The subscriber base in the Korean mobile communications market grew rapidly from 3,181,000 subscribers at the end of 1996 to 13,983,000 subscribers at the end of 1998, and to 23,443,000 at the end of 1999. This rapid growth was caused by the extension of subsidy grants after competitors had entered the market, a policy prohibited at one time by sunset law. Because services were quickly changing in high-innovation industries (e.g., communication network exchange), every company in the mobile communications industry needed to make large-scale investment to cope with the speed of technological development. The total equipment investment of the five companies reached KRW 9.7 trillion in 1999. The IS-95C and IMT-2000 projects also required substantial investment.

Table 2 shows the market share changes in the first half of business year 2000 based on the number of subscribers. SKT’s market share halted its downward trend in the first half of 1999 and began an upturn during the second half of 1999. (As of September 2005, the post-merger SKT had reduced its market share from 57.0% on 31 March 2000 to 52.3% in its efforts to comply with MRFTA antitrust provisions).⁹²

⁹² Y Lim, “Achievement and Loss of Subsidy Prohibition Law” (Sep. 2, 2005) *Digital Times*, at: http://www.dt.co.kr/contents.htm?article_no=2005090202010151673001 (Last visited May 14, 2007).

Table 2. Change of Market Share by Subscriber (%)⁹³

	Post-merger, SKT			KTF	LGT	Hansol
31/12/1998	42.7(55.8)	15.3(14.5)	58.0(70.3)	16.8(12.2)	15.1(9.8)	10.1(7.7)
31/12/1999	43.1(46.5)	13.8(14.5)	56.9(61.0)	18.2(16.9)	13.2(11.8)	11.7(10.3)
31/03/2000	43.2	13.8	57.0	17.9	13.4	11.7

According to the decision, the IMT-2000 project, a next-generation mobile communications service which can accommodate “data transfer communication” “image transmission” and “international roaming” entered service in May 2002. However, the existing mobile communications market was expected to persist for some time yet, because the speed of technological progress under the second-generation system was still uncertain.

Table 3 shows mobile communications service charges and their gradual reduction with emerging competition. Table 4 shows the situation before and after each company reduced its service charges on 1 April 2000. Compared with its competitors, SKT’s call charge had been fairly high but was greatly reduced. Thus, the standard charge gap was curtailed from 23%-30% to 13%-18%. However, it is easy to see that the basic charge was maintained at close to the prior level.

Table 3. Changes in SKT’s Service Charge and Call Charge (10-second unit) (in KRW)⁹⁴

	Jun. 1990	Feb. 1996	Dec. 1996	Sep. 1997	Jun. 1998	Jul. 1999	Apr. 2000
Call charge (midnight)	18	23	20	18	18	13	11

Table 4. Competitors’ Service Charge Reductions on 1 April 2000 (in KRW)⁹⁵

		SKT	Shinsegi	KTF	LGT	Hansol
Daytime call charge	Before 31/03/00	26	24	19	20	18
(per 10-second unit)	From 01/0400	22	21	18	19	18

⁹³ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 6. The numbers in the brackets represent sales basis. The sales in 1998 indicate the entire year while the sales in 1999 indicate only the first half of the year.

⁹⁴ *id.* at 7. (“The basic service charge, from April 1984 to February 1996 was KRW 27,000”).

⁹⁵ *id.*

According to the decision, six firms comprise the major phone suppliers in the Korean mobile phone market, with Table 5 showing each company's sales and market share as of 1999. The total phone demand in the Korean market was then KRW 5.3 trillion. Samsung Electronics Co, LGT, and Motorola Inc, were the chief competitors in the cellular phone market, with around 5% of the market share being taken by Hynix Semiconductor Inc, and SK Teletec Co, However, one remarkable fact is that SK Teletec's market share in the cellular phone market increased from 4% in 1999 to 8.7% in January-February 2000.

Table 5. Market Share Held by Korean Phone Manufacturers in 1999 ('000/%)⁹⁶

Supplier	Cellular phone		PCS phone		Total	
	Sales	%	Sales	%	Sales	%
Samsung Electronics Co,	4,044	49.7	2,774	37.2	6,818	43.7
LGT	1,860	22.9	1,249	16.7	3,109	19.9
Hynix Semiconductor Inc,	476	5.8	873	11.7	1,349	8.7
Motorola Inc,	1,218	15.0	1,602	21.5	2,820	18.1
Hanhwa S&C Co,	-	-	693	9.3	693	4.4
SK Teletec Co,	326	4.0	-	-	326	2.1
Others	210	2.6	272	3.6	482	3.1
Total	8,134	100.0	7,463	100.0	15,597	100.0
Market size (KRW billion)	27,869	52.2	25,520	47.8	53,389	100.0

A little earlier the KFTC had taken stock of the various mergers and acquisitions that were going on in the global communications market, with a view to forming a basis for its own fair competition policy. However, mergers between communications firms have their own distinct characteristics depending on where in the world they are pursued. This is because most cases are completed within a specific nation or geographic region with regard to communication sovereignty. It is not remarkable that horizontal merger cases should have been successful within a given nation or region.

Hitherto, when a horizontal merger had been realised within the same market, under the MRFTA Article 16.2, the KFTC had taken corrective action against violators by

⁹⁶ id. These statistics are derived from a report submitted by buyer firms and the Korea Electronics Association.

ordering them to sell all or part of their shareholding.⁹⁷ This seems to suggest a principle that “is very much embodied in current procedure, which is a vastly higher degree of scrutiny [will be given to] mergers that ... represent a substantial change in the *status quo* than to the ongoing actions of some companies.”⁹⁸

The KFTC reached the conclusion that “the merger by SKT with Shinsegi was anticompetitive.”⁹⁹ Apart from the result, this conclusion contains many contentious points in its rationale.¹⁰⁰ Of course, “not all horizontal mergers harm competition.”¹⁰¹ However, “the potential to harm competition is exceedingly evident when the result is to reduce the number of competitors.”¹⁰² First, by merging with Shinsegi, SKT met the expected “conditions of competition restraint” as described by the MRFTA, because SKT reached a post-merger market share of 60%.¹⁰³ Under the MRFTA, if the number one company’s market share exceeds 50%, or if the total market share of the top three companies exceeds 75%, it is presumed to be an anticompetitive merger.¹⁰⁴ A market share in excess of 70% is strongly suggestive of monopoly power,¹⁰⁵ and thus generally held to be monopolising, as we see in numerous cases.¹⁰⁶

⁹⁷ MRFTA Art. 16.2 allows KFTC to file a lawsuit to nullify the establishment of a company that has been merged in violation of MRFTA. The KFTC’s case proceedings involved two stages: examination and deliberation. First, when a possible violation of the law is reported or alleged, the competent bureau or regional office launches an examination into the issue. The examination process includes investigating of relevant documents, taking statements from related parties, consulting with experts, conducting legal reviews, etc. The concerned parties are given an opportunity to fully voice their opinions with the confidentiality of any business information acquired during the procedure being strictly protected. If the examiner decides legal measures are required, he or she makes an examination report and presents it to the committee. The report is also sent to the examinees, who are given an opportunity to submit any objections or comments on the report. Second, after the examiner presents the issue before the committee, commissioners review the report and any opinions put forth by the examinee. The examinee is notified of the date, hour, and venue of the legal proceedings. The deliberation process involves a thorough review of the investigation’s findings in this order; the examiner’s statement, examinee’s statement, investigation into evidence, examiner’s final opinion, and examinee’s final statement. The examinee may express his or her opinion directly or indirectly through an attorney during this process. Pursuant to this procedure, the committee makes a final decision as to whether any laws have been violated. If a violation is duly recognized, the KFTC will impose corrective measures such as “fines” or “a cease and desist order” while subjecting some cases to prosecution. The committee’s decision takes the form of a written resolution which is sent to the relevant parties.

⁹⁸ See <http://www.ftc.go.kr> (Last visited May 12, 2007); See Summers, note 42, at 359.

⁹⁹ 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 8.

¹⁰⁰ OECD Competition Committee, note 40, at 102.

¹⁰¹ See Viscusi et al, note 2, at 191.

¹⁰² *id.*

¹⁰³ OECD Competition Committee, note 40, at 102.

¹⁰⁴ *id.*; See Werden III, note 73, at 69.

¹⁰⁵ Under the MRFTA, that power need not have been exercised for a decision maker to conclude that it nonetheless exists. Rather, it will be presumed only after the market share exceeds the designated standard ratio through a combination of two or more firms.

¹⁰⁶ *United States v Aluminum Co. of America*, 148 F.2d 416 (2d Cir. 1945)–90%; *United States v Grinnell Corp.*, 384 US 563 (1966)–85%; *United States v United Shoe Mach. Corp.*, 110 F. Supp. 295 (D. Mass. 1953)–75%; *Colo Interstate Gas Co. v Natural Gas Pipeline Co.*, 885 F.2d 683, 694 n.18 (10th Cir. 1989)–70%–80%; *Heartransfer Corp v Volkswagenwerk AG*, 553 F.2d 964 (5th Cir. 1977), cert. denied,

Article 4 of the MRFTA provides that an enterprise whose market share in a particular business area falls under any of the following sub-paragraphs shall be presumed to be a market-dominating enterprise as referred to in Article 2.7 (i.e., the market share of one enterprise is 50% or more; or the total market share of not fewer than three enterprises is 75% or more). The same sub-paragraph provides that those whose market share is less than 10% shall be excluded. In particular, the already substantial level of customer concentration was expected to intensify with SKT's reinforced market dominance arising from the network effects¹⁰⁷ which are a unique characteristic of the mobile communications market. MRFTA, Article 2.7 further provides that a "market-dominating enterprise" means any enterprise holding market dominance who can determine, maintain, or change the prices, quantity, or quality of commodities or services or other terms and conditions of business as a supplier or customer in a particular business area, individually or jointly with other enterprises. Finally, in determining whether an enterprise is "a market-dominating enterprise" as to its market share, the factors taken into account include the existence (and extent) of any barriers to entry into its market and the relative size of competing enterprises (excluding enterprises whose annual total sales or purchases are less than one billion KRW).

The KFTC also recognised the existence of communications market entry barriers stemming from factors such as the frequency restrictions allocated by statute, high costs of initial capital investment for essential facilities which become sunk costs,¹⁰⁸ strong brand loyalties created through various intensive advertising campaigns, and possession of communication technology.¹⁰⁹ Finally, there were concerns over the possibility that cellular services would monopolise the demand for mobile phones, with the atmosphere growing tenser than before.¹¹⁰ "By using its monopolistic power in that area, SKT could force mobile phone suppliers to develop and sell cellular phones [rather than] PCS phones, which could result in accelerating the concentration of subscriptions to SKT by those subscribers with a strong preference for newly developed models."¹¹¹

Meanwhile, "SKT argued that the economic efficiency which was certainly derived from the merger outweighed the anticompetitive effects."¹¹² In other words, no matter what unfavourable side effects were produced, the merged business could generate tremendous efficiencies such as strategic synergy through the increased number of subscribers, business operating synergy by combining existing communications networks, and financial synergy by avoiding overlapping investment in R&D. However, although the KFTC did recognise some of the alleged economic efficiency gains, it rejected the petitioner's argument on the grounds that the parallel operation of the two

443 US 1087 (1978)–71%–76%; *Exxon Corp v Berwick Bay Real Estate Partners*, 748 F.2d 937, 940 (5th Cir. 1984)–70%.

¹⁰⁷ See Viscusi et al, note 2, at 489 (Table).

¹⁰⁸ "The US Circuit courts hold to the same effect." See *Concord Boat Corp v Brunswick Corp*, 207 F.3d 1039, 1059 (8th Cir. 2000); See also *Reazin v Blue Cross & Blue Shield of Kan, Inc*, 899 F 2d 951, 968 (10th Cir. 1990).

¹⁰⁹ See OECD Competition Committee, note 40, at 102.

¹¹⁰ *id.*, at 103.

¹¹¹ *id.*, at 103.

¹¹² *id.*

enterprises' communications networks was unavoidable and that the effects of reducing R&D costs were not as significant as portrayed by SKT.¹¹³ Furthermore, the theory does not offer any guidance for distinguishing between eliminating duplication of R&D effort between the two merged companies, and cutbacks intended to reduce R&D to sub-competitive levels.¹¹⁴

Based on its judgment, the KFTC ordered corrective measures against SKT, including the demand that SKT reduce its market share to 50% within one year.¹¹⁵ "The measures also limited the quantity of mobile phones SKT could purchase from its subsidiaries within a certain period so that it could not depend entirely on the subsidiary for the purchase of mobile phones."¹¹⁶

4. The Criteria for Merger Assessment

Some have argued that as technological innovation is undoubtedly the real key driver of economic progress, an increase in the rate of technological change can offset the adverse impact on consumer welfare from supra-competitive prices.¹¹⁷ However, I believe this argument stems from observation of conditions within high technology markets, which in fact differ from other markets in significant respects. In particular, these markets are characterised by rapid rates of technological development because enterprises pour all their efforts into knowledge-intensive technology. These vanguard markets also have striking features in high fixed R&D costs and sometimes strong "network effects."¹¹⁸ At the same time, neither economic theory nor statistical studies support the assertion that highly concentrated markets promote R&D beyond a minimum viable scale or capital requirements; indeed, there is considerable evidence to the contrary.¹¹⁹

This being the case, restriction of competition resulting from company mergers (classified under Korean regulatory law by type as horizontal, vertical, or conglomerate mergers)¹²⁰ will be examined in light of the business relationships among concerned parties, together with third parties and others because a merging firm is much indebted to the fostering of the market for what it has become. Whether a horizontal combination substantially restricts competition is judged by the comprehensive consideration of market concentration before and after the merger; the degree of foreign competition

¹¹³ See R D Anderson & B Rivard, "Antitrust Policy towards EFT Networks: The Canadian Experience in the INTERAC Case" (1999-2000) 67 *Antitrust Law Journal*, 389.

¹¹⁴ See generally Rapp, note 43, at 30.

¹¹⁵ See OECD Competition Committee, note 40, at 103.

¹¹⁶ See *id.*; On September 26, 2005, *The Korea Times* reported that "80% of Koreans want cell phone subsidies." The extension of the subsidy ban is hotly disputed in Korea, See <http://times.hankooki.com/lpage/tech/200509/kt2005092621385712350.htm> (Last visited May 16, 2007).

¹¹⁷ Gilbert & Tom, note 4, at 45.

¹¹⁸ See *id.*

¹¹⁹ See *id.*, at 83.

¹²⁰ Enacted by the Korean Fair Trade Commission, Notification on M&A Review Guidelines, No. 1998-6, June 15, 1998; Amended by Fair Trade Commission Notification No. 1999-2, April 15, 1999 (KFTC Guidelines).

introduced and the international competition situation; the possibility of market entry; the possibility of collusion between competing businesses; and the existence of similar goods and adjacent markets.¹²¹ Thus, the KFTC's test requires the petitioner to show that a merger will actively enhance competition rather than substantially reducing consumer welfare.¹²² Based on these standards a couple of issues will be discussed below.

4.1 Issues surrounding restricted competition

4.1.1 Concentration of the market

When antitrust authorities evaluate the degree of market structure concentration, recent years' trends must be considered. Where the trend has been towards a considerable increase in market concentration, mergers between businesses with high market shares may lead to a substantial restriction of competition. In such a case, factors including development of new technology, patent rights, and others must also be considered.¹²³

The total market share and relative sizes of the two leading companies pre- and post-merger are presented in Table 6. In this case, the restriction on competition resulting from the merger is presumed as being beyond doubt. Because the disparity of market share between the post-merger largest enterprise and its nearest competitor reaches 38.6% points, it satisfies the MRFTA Article 7(4).1 criterion as it was caused by an increase in the gap stemming from the sharply rising disparity, while the second company's market share remained as before.

Table 6. Mobile Communications Market Share (as of 30 Nov 1999, %)¹²⁴

	Before merger	After merger
SKT (No. 1)	42.7	56.9
KTF (No. 2)	18.3	18.3
No.2 ÷ No.1 (%)	42.9	32.2

In this case, SKT (the petitioner), the largest enterprise by number of subscribers in the mobile communications market, acquired the third-ranked enterprise. Obviously, the competition structures in the mobile communications market worsened, as the number of competitors decreased from five to four. It is also understood that the petitioner's market-dominating power would be stimulated and strengthened by "network externalities"¹²⁵ resulting from the increased number of subscribers. Moreover, the

¹²¹ KFTC Guidelines, §VII, I.

¹²² Kolasky, note 72, at 785.

¹²³ KFTC Guidelines, §VII.1.A.(2).

¹²⁴ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 8.

¹²⁵ "Network externality has been defined as having the same meaning as network effects." For an excellent explanation of network effect, See http://en.wikipedia.org/wiki/Network_effect (Last visited

merging of the two firms led to increases in the Herfindahl-Hirschman Index (HHI),¹²⁶ which, according to the decision, increased by 1,213, from 2,669 to 3,882, and the petitioner's market-dominating power also made conditions more difficult in the mobile communications market.

Because the mobile communications market is a network industry and securing subscribers is an indispensable requirement for business, if an enterprise succeeds in gaining and retaining more customers than other enterprises the network externalities will become much more likely and will increase the gap between the enterprises. Furthermore, customers are hesitant to switch brands because certain costs are associated with doing so.¹²⁷ For example, a customer choosing to subscribe to a different service provider will incur additional expenses including subscription fees, security deposits, and phone purchasing costs. Above all, in Korean circumstances, nothing can prevent the customer's phone number from changing. In view of the excellent quality of the petitioner's services, it seems that most subscribers did not mind paying premium prices for them. In due consideration of these points, "demand elasticity"¹²⁸ was low, and there was ample potential within the scope of the established markets to keep up this state of affairs for a long time. Here, the network externalities were apparently revealed by a survey of public opinion in November 1999, in which subscribers intending to cancel their subscriptions were classified by enterprise; SKT 4.0%, Shinsegi 12.0%, KTF 15.3%, LGT 21.7%, and Hansol 22.3%.¹²⁹ The cancelling subscribers named their intended new service provider as follows: SKT 72.3%, Shinsegi 5.9%, KTF 12.6%, LGT 5.3%, and Hansol 4.0%.¹³⁰ Therefore, by this analysis the merger clearly appears anticompetitive, and the KFTC's ruling was sound.

4.1.2 Possibility of new entry

If entry into the concerned market can be made easily shortly after a merger, the number of competitors reduced by a merger is likely to rise once more and therefore the merger is less likely to substantially restrict competition.¹³¹ The bottom line is that markets where entry is quick and easy are highly competitive because they must be prepared to meet all consumer demands.¹³²

May 19, 2007); See also <http://www.utdallas.edu/~liebowitz/palgrave/network.html> (Last visited May 19, 2007).

¹²⁶ For more on HHI, See <http://www.unclaw.com/chin/teaching/antitrust/herfindahl.htm> (last visited May 19, 2007).

¹²⁷ See Viscusi et al, note 2, at 177, and Hylton, note 78, at 73.

¹²⁸ See G J Werden, "Demand Elasticities in Antitrust Analysis" (1997-1998) 66 *Antitrust Law Journal*, 363[hereinafter Werden I].

¹²⁹ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 9.

¹³⁰ See *id.*

¹³¹ The Guidelines, §VII.1.(3), state that: New entries into a given market are deemed easy if there is a company which falls under one of the following categories: (a) A company which has publicly announced its intent, plans, etc. to invest and participate in the market. (b) A company which is deemed likely to participate in the market in the near future without a significant burden of cost of entry or exit in response to a meaningful and no transitory increase in price in the market, such as being able to enter in the concerned market without a significant modification to its existing production facilities. See also KFTC Guidelines, §VII.1.C.(1).

¹³² Baumol & Swanson, note 7, at 670.

Under Korean law in force both now and at the time of the merger, the following factors are considered when assessing the likelihood of new entries:

*(a) presence/absence of legal or institutional barriers to entry; (b) the amount of minimum capital required; (c) production technology requirements including patents and other intellectual property rights; (d) conditions of location; (e) conditions of purchase of raw material; (f) the distribution network of competitors and the cost of establishing sales networks, and (g) the level of product differentiation.*¹³³

Even though there has been an explosive growth in demand for communications services throughout the world, it is still not easy to enter the mobile communications market legally and practically. One example of a legal barrier is frequency restriction;¹³⁴ in Korea, this restriction takes the shape of the need to acquire business approval from the Ministry of Information and Communication (MIC). The major practical difficulty facing any would-be entrant is the enormous start-up expense of obtaining the most modern equipment. Furthermore, if an enterprise enters an established market, it is even harder to get the necessary operating technology and open up service. Thus, it is almost impossible to imagine a new enterprise entering the existing market. In the sense of its language, the KFTC ruling successfully combines reasonableness and cogency, but omits an examination of each item of the provisions.

4.1.3 Possibility of entry by foreign competitors

Probably the most important margin on which competitive pressure can be brought to bear in most of countries and firms is greater exposure to international competition through reduction of trade barriers to permit entry by foreign competitors.¹³⁵ In the US, it has often been argued that special treatment is appropriate when assigning a share for a domestic market that includes foreign-based competitors.¹³⁶ However, I am not so certain whether this argument also holds true in the Korean situation because the traditional comparative advantage case for international trade that economists teach is probably not as important today as the cases based on economies of scale and taking advantage of the large market effect.¹³⁷ There is also still greater uncertainty in the high-technology market. This is especially true where exports take up a considerable portion of sales turnover and substantial competition exists in the international market.¹³⁸ It would be also true in a market where importing is easy or imports take up an increasingly large percentage.¹³⁹ In both these cases, a merger would be less likely to

¹³³ KFTC Guidelines, §VII.1.C.(2).(a)-(g).

¹³⁴ *Ibid* Appendix Table.

¹³⁵ See M Whally & Franz-Jörg Semler, "International Business Acquisitions-Major Legal Issues and Due Diligence" (2nd ed. 1990) *Kluwer Law International*, 188-202.

¹³⁶ Werden III, note 73, at 98.

¹³⁷ Summers, note 42, at 357.

¹³⁸ KFTC Guidelines, §VII.1.B.(2).

¹³⁹ *id.* §VII.1.B.(1).

substantially restrict competition. In such cases, the following factors must be considered in order to assess the possibility of market entry by foreign competitors:

*(a) international price and the status of supply and demand for the product; (b) extent of domestic market opening and the current status of foreign investment; (c) existence of a formidable international competitor; (d) customs tariffs and plans to alter them; and (e) non-tariff barriers.*¹⁴⁰

However, it is very difficult for foreign competitors to gain entry to the Korean mobile communications market.¹⁴¹ Foreign companies are barred from gaining frequency approval, and foreign investors in a Korean company are limited to a maximum shareholding of 49%.¹⁴² So the only opportunity for foreign investors to gain even limited access to the market is as a minority shareholder of a Korean company. It should also be noted that obtaining frequency approval from the MIC is a delicate problem that involves balancing economic, political, and military interests.

4.1.4 Possibility of undue collaborative acts

The notion of equal business opportunity at least justifies legal intervention to prevent business activity that significantly impedes the ability of a superior product to succeed in the marketplace.¹⁴³ In addition, any such merger is likely to substantially restrict competition, with experience showing that this is the case if the decrease in the number of competitors as a result of the merger creates a situation conducive to explicit or implicit collusion on price, output, or terms of trade.¹⁴⁴ Under KFTC guidelines, the case of collusion by competitors is to be assessed by examining the following factors:

(a) whether the price of the products sold in the relevant product market has been markedly higher than the average price of similar products not included in the relevant market; (b) whether enterprises in competing relations have maintained a stable market share for the past several years in the market where the demand for the product transacted in the relevant area of trade is inelastic; (c) whether there is high homogeneity among products supplied by enterprises in competing relations and whether the terms of

¹⁴⁰ *id.* §VII.1.B.(1).(a)-(e).

¹⁴¹ See T Kim, "Is KT Vulnerable to Foreign Hostile Takeover?" (Oct. 17, 2005) *The Korea Times*, at <http://times.hankooki.com/lpage/tech/200510/kt2005101722060911810.htm> (Last visited Sep. 19, 2007).

¹⁴² See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 10; Korean Securities Exchange Act, Article 203 (Restrictions on Acquisition of Securities by Foreigners), provides that: (1) Acquisition of securities by a foreigner or foreign corporation, etc. may be restricted by the provisions of the Presidential Decree. ... (2) With respect to an acquisition of stocks of a public corporation by a foreigner or foreign corporation, etc., the acquisition may be restricted separately under the conditions as prescribed by the articles of association of the public corporation in addition to a restriction pursuant to paragraph (1). ... (3) Any person who has acquired stocks in contravention of the provisions of paragraph (1) or (2), may not exercise his voting rights to the stocks, and the Financial Supervisory Commission may order a correction to the person who acquired stocks in contravention of the provisions of paragraph (1) or (2).

¹⁴³ See Ross, note 69, at 959-60.

¹⁴⁴ KFTC Guidelines, §VII.1.D.

*production and sale of competitors are similar; (d) whether the information on the business activities of competitors is easily accessible; and (e) whether there have been cases of undue concerted acts in the past.*¹⁴⁵

In this case, the KFTC identified only a low possibility of undue collaboration between the petitioner and another company because SKT would have to obtain MIC approval for the subscription agreement.¹⁴⁶ However, it might still have been possible for SKT to engage in undue collaboration in the area of mobile phone purchases, which are unrelated to subscription agreements. Therefore, the KFTC's reasoning here appears to be defective.

4.1.5 Petitioner's competitive superiority

If we can trust consumer sentiment, new subscriber attraction in the mobile communication market hangs on the subsidies for mobile phone purchases. As a leading company in the Korean mobile communications business, SKT had a great advantage in accumulated profits and completion ratio of depreciation, and thus was in an excellent financial situation.¹⁴⁷ As shown in Table 7 below, SKT combined its subsidies policy with its earlier marketing strategy and saw 64.1% of new subscribers select SKT as their service provider.¹⁴⁸ If SKT continued subsidies for mobile phone purchases, competition would become even more cut-throat and place SKT in a still better position to secure new subscribers; if not for the KFTC's decision that SKT was engaging in foul play, this anticompetitive conduct would likely have skyrocketed.¹⁴⁹

Table 7. 4/4 Quarter, 1999, New Subscribers and Net Increase (Person, %)¹⁵⁰

	SKT	Shinsegi	KTF	LGT	Hansol	Total
New subscribers	1,835,090 (56.8)	281,217 (8.7)	430,222 (13.3)	309,681 (9.6)	377,351 (11.6)	3,233,561 (100.0)
Net increase	1,207,196 (64.1)	122,270 (6.5)	192,852 (10.2)	131,442 (7.0)	228,856 (12.2)	1,882,616 (100.0)

¹⁴⁵ *id.* §VII.1.D.(a)-(e).

¹⁴⁶ *See* 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 10.

¹⁴⁷ *id.* According to records submitted to the KFTC, in the fourth quarter of 1999, SKT was the only company that decreased subsidies for mobile phone purchases to maintain the ratio of liabilities for accounting purposes, as compared to other companies which were carrying forward subsidies for mobile phone purchases to the next fiscal year but posting them as costs for the current fiscal year.

¹⁴⁸ *See* 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 11.

¹⁴⁹ *id.*

¹⁵⁰ *id.*

As a result of the merger, SKT held a 22.5 MHz cellular frequency band through its integration and gained the upper hand in the market over the three PCS firms, which had only a 10 MHz frequency band between them; thus SKT could use frequency negotiations to gain an advantageous position in the service competition.¹⁵¹ After the merger, SKT's brand loyalty could be expected to rise because, as compared to other companies, SKT had more dependable subscribers in the areas of telephone traffic, bill payment, and disconnection ratio, as shown in Table 8. SKT's subscribers generally bought from them repeatedly over time rather than buying from multiple service providers.¹⁵² Therefore, those considerations should also be taken into account when judging anticompetitive conduct.

Table 8. Subscriber Comparison (1999)¹⁵³

Classification	SKT	Shinsegi	KTF	LGT	Hansol
Telephone traffic (Call rate per person)	10,157.8	7,560.5	8,509.3	7,859.4	8,414.0
Monthly payment (KRW per person)	39,626	35,776	32,268	30,283	30,543
Disconnection ratio	7.8%	13.7%	16.1%	13.5%	10.1%

SKT has lower fixed costs than its competitors, i.e., a lower cost per subscriber and operating cost per minute.¹⁵⁴ The PCS frequency band requires more investment than the cellular frequency band to provide the same standard of communication service, so the PCS firms stand at a disadvantage in this respect.¹⁵⁵

Table 9. Cost Comparison by Enterprise (1999)¹⁵⁶

	SKT	Shinsegi	KTF	LGT	Hansol
Cost per subscriber (KRW)	509,118	532,530	558,640	573,903	572,041

¹⁵¹ *id.* With regard to US frequency allocation, See Appendix Table and <http://www.ntia.doc.gov/osmhome/allochrt.pdf> (Last visited Sep. 18, 2007).

¹⁵² *id.*

¹⁵³ *id.*

¹⁵⁴ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 12.

¹⁵⁵ International Telecommunication Union (ITU) presumes the PCS frequency band requires two to three times a larger investment in its base station than the cellular frequency band.

¹⁵⁶ 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 12.

Operating cost per minute (KRW)	144.0	155.0	156.3	168.0	160.3
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As SKT was the leading company in the mobile communications market and had maintained a good financial status, its liability ratio was comparatively low, and SKT had accumulated substantially more earned surplus than its competitors; SKT had accumulated KRW 13,918 billion in profits while the three PCS companies accumulated losses of KRW 2,860-5,385 billion.¹⁵⁷

Table 10. Financial Statements by Enterprise (as of 31 Dec. 1999)¹⁵⁸

	SKT	Shinsegi	KTF	LGT	Hansol
Profits (losses) (KRW billion)	13,918	(4,789)	(5,385)	(2,860)	(3,160)
FY 1999 Net-income (outgoings) (KRW billion)	3,041	52.3	(590)	(1,617)	(451)
Liability ratio	66.0%	574.7%	151.3%	196.4%	191.6%
Interest cost/ service sales	3.11%	9.8%	11.7%	16.5%	9.0%

Regarding equipment investment depreciation (which is considered an expense, and thus greatly affects a company's financial situation), SKT's depreciation completion ratio (a measure of how quickly its depreciating assets had been written off and thus removed from its books) stands out conspicuously from those of its competitors; as of 31 December 1999, each competitor's equipment depreciation completion ratio was Shinsegi 32.3%, KFT 17.0%, LGT 16.6%, and Hansol 17.6% whereas SKT's was 72.9%.¹⁵⁹

On the advertising and sales promotion cost side, as compared with the three PCS companies, SKT adopted high-powered marketing strategies by spending 1.8 to 3.5 times as much money to secure subscribers. As of 31 December 1999, the rival companies' budget lines for advertising and sales promotion were: SKT KRW 1,703 billion, Shinsegi KRW 517 billion, KFT KRW 947 billion, LGT KRW 634 billion, and Hansol KRW 489 billion.¹⁶⁰

Communications network coverage is also an essential criterion for evaluation of the mobile communications business. As indicated by the number of network switchboards and base stations,¹⁶¹ SKT invested more capital in increasing its network coverage than

¹⁵⁷ *id.*

¹⁵⁸ *id.*

¹⁵⁹ *id.*

¹⁶⁰ *id.* at 13.

¹⁶¹ See Dichiaro, note 30, at 5, who states that a base station uses its set of channels to relay calls to and from mobile phone, and constantly monitors the strength of the signal between it and each individual mobile phone.

the three PCS companies. Based on the enterprises' respective technology levels, even though the amount of money being invested for equipment remained the same, there were huge differences in communications service quality.¹⁶² Thus it may be presumed that SKT's communications network coverage was competitive. Furthermore, considering that Shinsegi was the sole provider for the military, both companies' superior communications network coverage would be enhanced after the merger.¹⁶³

Table 11. Communication Equipment Investment by Korean Mobile Communications Companies (as of 31 Dec. 1999)¹⁶⁴

	SKT	Shinsegi	KTF	LGT	Hansol
Network switchboards (No.)	48	22	19	20	18
Data system stations (No.)	3,089	2,039	2,719	1,985	2,383
Amount of investment on main equipment (KRW billion)	34,059	15,808	16,339	13,120	13,473

Let us recognise at the outset that no economic model can demonstrate precisely the correct breadth or scope of IP protection necessary to promote exactly the degree of innovation that is best for society.¹⁶⁵ However, in this situation, comparing the R&D side, including researchers, IP rights, and investment of R&D, SKT had overwhelmingly superior technology and research ability to that of the three PCS companies.¹⁶⁶ It is a good bet that the petitioner's distribution organisation could be boosted substantially by the merger.¹⁶⁷

Table 12. R&D in the Korean Mobile Communications Industry (as of 31 Dec. 1999)¹⁶⁸

	SKT	Shinsegi	KTF	LGT	Hansol
Researchers	513	48	67	55	28
R&D operating cost (billion KRW)	663.9	52.6	24.0	6.0	30.0
Intellectual property rights (cases)	516	165	38	30	33

¹⁶² 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 13.

¹⁶³ *id.*

¹⁶⁴ *id.*

¹⁶⁵ S Desanti, "Antitrust in the Information Economy" (2000-2001) 68 *Antitrust Law Journal*, 568-69.

¹⁶⁶ 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 13.

¹⁶⁷ *id.*

¹⁶⁸ *id.*

After SKT acquired Shinsegi, it retained 1,837 exclusive agencies for the raw materials it needed.¹⁶⁹ The KFTC's judgment was that SKT might become more competitive by the merger, which would take on the existing exclusive agencies and help maximise profits by introducing new products to the nationwide market.

Table 13. Agency Earnings by Enterprise and Type of Agency (as of 31 Dec. 1999)¹⁷⁰

	SKT	Shinsegi	KTF	LGT	Hansol
Income per agency (KRW)	2.19 billion	1.30 billion	1.30 billion	0.77 billion	0.66 billion
Exclusive (KRW)	2.19 billion	-	1.33 billion	1.00 billion	-
(Number of agencies)	(1,300)	(537)	(1,072)	(82)	(577)
Non-exclusive (KRW)	-	-	1.02 billion	0.75 billion	-
(Number of agencies)	(0)	(222)	(113)	(952)	(353)

According to a Korean Consumer Protection Board (KCPB) report, SKT had high brand power in its service and goods, while the number of complaints filed with the KCPB were at noticeably low levels.¹⁷¹

Table 14. Consumer Complaints (raw figures/per 100,000)¹⁷²

Classification	SKT	Shinsegi	KTF	LGT	Hansol	Total
1998	47	93	79	48	35	302
1999	216	363	416	372	347	1,714
1999 average subscriber total	8,038,422	2,687,300	3,310,232	2,600,734	2,076,134	18,712,822
Complaints per 100,000 persons	2.7	13.5	12.6	14.3	16.7	9.2

¹⁶⁹ *id.* at 14.

¹⁷⁰ *id.* ("The standard is the average number of agencies in 1999").

¹⁷¹ *id.*

¹⁷² *id.* ("Reported by the Korean Consumer Protection Board").

4.1.6 Possibility of restricted competition by varying the subscription charge

The requirement to obtain government approval for its subscription charge made it impossible for SKT to build up a monopoly or an oligopoly within a short period.¹⁷³ After the merger, to exclude its competitors, SKT avoided increasing subscription charges as far as possible.¹⁷⁴ As a result, SKT's market-dominating power would be bolstered, and the PCS companies' ability to compete was likely to be reduced.¹⁷⁵

The most notable quality of the communications industry is its speed in technological development and use of high technology.¹⁷⁶ Generally, if enterprises employ the best available technology in business, they can supply services at lower cost and continually reduce their charges, subject to availability. However, experience shows that if competition is absent from the market, charge reduction will not happen or will be delayed. The subscription agreement approval system makes it difficult for SKT to decrease its charges (as opposed to simply suppressing any increase). Because the requirement for government approval before setting a new subscription charge rate to its customers would not apply after SKT merged with Shinsegi, the petitioner could set competitor exclusion in motion.

4.1.7 Restricted competitiveness in the phone market:

In the case of mergers where technological innovations are in prospect, there is no escape from the question of whether the gains to consumers from merger-dependent innovation are likely to outweigh any anticompetitive effects of the merger.¹⁷⁷ If we accept the above diagnostic uncritically, after the merger SKT would become a "monopsony"¹⁷⁸ in the cellular market through its demand control over subsidiary company SK Teletec's products, with the fear that this would impede the competition.¹⁷⁹

Table 15. SKT's Cellular Phone Purchasing Ratio from SK Teletec (number of phones, %)¹⁸⁰

	SKT total purchases	Total SKT purchases from SK Teletec	Ratio

¹⁷³ *id.* at 15.

¹⁷⁴ *id.* SKT had consistently imposed higher charges than its competitors, but reduced them shortly before the merger, thus decreasing the gap between the enterprises.

¹⁷⁵ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 15.

¹⁷⁶ Viscusi et al, note 2, at 477.

¹⁷⁷ Fisher, note 53, at 561.

¹⁷⁸ In economics, a monopsony is a market form in which only one buyer, called a "monopsonist," faces many sellers. It is an instance of imperfect competition, symmetrical to the case of a monopoly in which there is only one *seller* facing many buyers. The term "monopsony" was first introduced by Joan Robinson in 1933.

¹⁷⁹ Viscusi et al, note 2, at 456-57.

¹⁸⁰ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 16.

1999	6,101,000	326,000	5.3%
Jan.–Feb. 2000	1,189,000	143,000	12.0%

SK Teletec, one of the pioneers of cellular technology, manufactures its phones at production facilities installed at Sewon Telecom Co, moreover, SK Teletec has been importing IM-1100 phones from Kyocera Co, in Japan and processing them at Sewon since December 1999 before releasing them into the market. As of 31 March 2000, the company's cellular phone production had reached 100,000 per month.¹⁸¹

Table 16. SK Teletec's Phone Manufactures by Production Facility¹⁸²

	1999			Jan. – Feb. 2000		
	Sewon Telecom	Import (Kyocera)	Total	Sewon Telecom	Import (Kyocera)	Total
Supply	319,200	6,800	326,000	114,000	29,000	143,000

The KFTC concluded that the formation by SKT of a monopsony in the cellular phone market was likely to restrict competition within the mobile communications market. After applying high technology to its cellular phones, the petitioner would have a monopoly on them. The application of high technology to current business schemes would help induce customers to join SKT by appealing to the customer's preference for new model cellular phones.¹⁸³

4.2 Synthesised conclusion regarding the restrictive effect on competition

As discussed above, it was presumed that this case would result in restricted competition in the form of market concentration; it would bring about decreasing competition by creating an imbalance between the firms' market shares and would also decrease the number of firms in the market. In addition, after the merger, it was feared that the "strain effect" (or herd behaviour) from network externalities would emerge in the mobile communications market. For the time being at least, no new market player would emerge in the mobile communications industry; SKT had a better financial structure, distribution organisation, research and development ability, and communication facilities than its competitors, so it seemed that in every respect competitiveness would decline in the market. All issues considered, this case

¹⁸¹ *See id.*

¹⁸² *See id.* SK Teletec's sales were KRW 1,171 billion in 1999, and KRW 454 billion in Jan.-Feb. 2000; the amount of the supply in March 2000 was 115,000.

¹⁸³ *See id.*

demonstrates how the nature of a market can “practically suppress competition in a particular business area.”

In addition, SKT’s reinforcement of its market-dominating position in the mobile communications market would delay charge reductions, additional service development, etc., with damage to consumers being abundantly clear. Demand elasticity in the mobile communications market was so low that the distortions in the market structure were likely to remain for a long period of time.¹⁸⁴ Finally, even in the phone market, it was probable that competition would be restricted by SKT’s monopsony of the cellular phone.¹⁸⁵

4.3 Some jurisdictional comparison of merger assessment criteria and policy lessons

In 1992, for the first time since the 1968 and 1982 guidelines, “the [US DOJ and FTC] joined in promulgating horizontal merger guidelines.”¹⁸⁶ Notably, “[t]hese guidelines were offered as a framework of analysis of the adverse competitive effects of a given merger.”¹⁸⁷ However, the US “antitrust laws were passed for the protection of competition, not competitors.”¹⁸⁸ Since 1999, US mobile communications firms have achieved national coverage by acquisition and merging firms. Unlike Korea’s single merger assessment, however, the US adopted a dual review system – the FCC analyse the merger and it then proceeds separate from DOJ.¹⁸⁹ In merger approval hearings, the FCC examine factors based on the number of competing enterprises, the HHI, and the degree of horizontal concentration compared its degree in the global market. FCC tried to analyse not only the competition situation in the communication market, but also the public benefits which would occur from the merger.¹⁹⁰ The significant public benefits means:

(i) [d]eployment of broadband throughout the entire [region that covered by both firms], (ii) [i]ncreased competition in the market for advanced pay television services due to [merging firm’s] ability to deploy Internet Protocol-based video services more quickly than [merged firm] could do so absent the merger, (iii) [i]mproved wireless products, services and reliability due to the efficiencies gained by unified management of [the merged firm], (iv) [e]nhanced

¹⁸⁴ See Hylton, note 78, at 238-39, and Werden III, note 73, at 78.

¹⁸⁵ Davis, note 48, at 697. It is logically possible, however, to argue that enforcement actions based on future markets should be barred ‘as a matter of law’ because it is so difficult to predict competitive conditions in markets that do not yet exist.

¹⁸⁶ D Gifford & L Raskind, “Federal Antitrust Law: Cases and Materials” (1998) at 1001.

¹⁸⁷ *id.*

¹⁸⁸ Unilateral Conduct Working Group Questionnaire, Response of the United States Federal Trade Commission and Department of Justice at 1, at:

http://www.internationalcompetitionnetwork.org/media/library/unilateral_conduct/questionnaire/US_FTC-DOJ_UCWG_Questionnaire.pdf (Last visited Oct. 21, 2007).

¹⁸⁹ “FCC Approves Merger of AT&T Inc and Bellsouth Corporation” (December 29, 2006) FCC News Release at 1 at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-269275A1.pdf.

¹⁹⁰ *id.*

*national security, disaster recovery and government services through the creation of a unified, end-to-end IP-based network capable of providing efficient and secure government communications, and (v) [b]etter disaster response and preparation from the companies because of unified operations.*¹⁹¹

Meanwhile, FCC analyses merger effects that influence competition in the multiple main markets. They are: (i) special access competition; (ii) retail enterprise competition; (iii) mass market voice competition; (iv) mass market internet competition; (v) internet backbone competition; (vi) international competition.¹⁹²

The analysing tool for a decision is standardised, so how a horizontal merger affects market competition and the anti-competition of its combination is easily weighed. Antitrust law uses this as the groundwork for setting guidelines. On the other hand, there is no unanimous agreement on whether vertical combination causes negative effects on competition although the guidelines for vertical mergers in the antitrust law are changing with the trend in academic study. Therefore, one important policy lesson can be seen: there are no fixed merger assessments standards for mobile communication firm merger cases and it differs from one jurisdiction to the other.

5. Analysis of Competition Issues in the Mobile Communications Market

Antitrust law has always been concerned with anticompetitive practices of market players that permit a firm to obtain or maintain a dominant share of a market despite its product's qualitative inferiority.¹⁹³ The petitioner is required to give sufficiently clear evidence that the merger will enhance and promote competition rather than eliminate it. As a matter of theory, even though there is no threat to competition in any existing relevant market, it is possible for a merger to threaten consumer benefits by reason of a decrease in innovation.¹⁹⁴ Thus, the anticompetitive effect must be assessed by the agency to see if the firm's business scheme and its conduct are found to have the necessary connection to the monopoly.¹⁹⁵ Meanwhile, it should be noted that traditional antitrust merger enforcement rests on a rough consensus about the relationship of market performance and market structure. In contrast, innovation market enforcement primarily aims to regulate the structure of innovation markets so as to enhance the level of resources devoted to R&D.¹⁹⁶ In short, the innovation market analysis, which has received extensive criticism, is simply a tool to aid the analysis of theoretical model and competitive effects.¹⁹⁷

¹⁹¹ *id.*

¹⁹² *id.* at 1-2.

¹⁹³ Ross, note 69, at 951.

¹⁹⁴ Davis, note 48, at 695.

¹⁹⁵ D A Balto & E A Nagata, "Proof of Competitive Effects in Monopolization Cases: A Response to Professor Muris" (2000) 68 *Antitrust Law Journal*, 309, at 311.

¹⁹⁶ Davis, note 48, at 681; A major cost is the R&D effort, which is not a one-time investment, but must be carried out repeatedly if the innovating enterprise is not to be destroyed by more active rivals: See Baumol & Swanson, note 7, at 680.

¹⁹⁷ Gilbert & Sunshine, note 8, at 82.

5.1 Commingled characteristics in high-innovation markets

It is sometimes claimed that antitrust policy standards should not be applied to innovative industries because those industries change more quickly than the judicial system can react, making any monopoly power transient and any relief irrelevant.¹⁹⁸ Here, my argument is not that it is more or less likely for firms to have market power as commonly shown by market share,¹⁹⁹ but only that the appropriate tests for assessing such power are very different from those now commonly in use.²⁰⁰ It is definitely true that in the context of innovative and quickly changing industries, to attain a regulatory goal, antitrust policy must be carefully applied with due consideration of consumer benefits. In such industries, it would be wrong to look only at static gloomy situations, which simply provide a snapshot in time rather than a real-time motion picture of what is going on. Hence, in deciding whether to approve, prohibit or prosecute, antitrust authorities should consider whether the situation can be self-correcting with simple measures, because sometimes it may be better to leave the market to its own devices. Further, the dramatically and incessantly changing nature of the industry must be taken into consideration in deciding whether an enterprise's allegedly anticompetitive business conduct can be reasonably supposed to be aimed at the suppression of competition, if it is apparent that it is not going to be effective anyway.²⁰¹

However, even though no authoritative definition of high-innovation markets yet exists,²⁰² the nature of the mobile communications market accords with many of the characteristics commonly attributed to most high-innovation markets.²⁰³ In other words, the mobile communications market in Korea involves traditional market structure characteristics under business environments in addition to numerous high-innovation market ones. To begin with, "a speedy technological advance not only enables the market for mobile communications to undergo rapid changes in the services [provided]," but also initiates consumers into modernised technology.²⁰⁴ Granted, as of 2000, it was less than 20 years since mobile telephones had come into regular use in Korea, but the market territory created by the use of cellular phones was quickly encroached on by PCS and mobile cellular services. The next-generation IMT-2000, launched in 2002, was expected largely to supplant the earlier services and thus to lead a paradigm shift in the communication technology generation.²⁰⁵

¹⁹⁸ Fisher, note 53, at 563.

¹⁹⁹ *Springfield Terminal Ry. Co. v Canadian Pac. Ltd.*, 133 F.3d 103, 107 (1st Cir. 1997).

²⁰⁰ Baumol & Swanson, note 7, at 666.

²⁰¹ *id.*, at 663.

²⁰² Gilbert & Sunshine, note 8, at 75.

²⁰³ Rapp, note 43, at 19, and OECD Competition Committee, note 40, at 103.

²⁰⁴ Desanti, note 165, at 565, and OECD Competition Committee, note 40, at 103.

²⁰⁵ OECD Competition Committee, note 40, at 103.

Admittedly, “cellular phone services have been momentarily transformed from the initial analogue type which has been conventionally used to the digital;”²⁰⁶ as a consequence, analogue services, in which a base carrier’s alternating current frequency is modified by varying the frequency or the amplitude of the signal (in order to add voice or other information), are not provided in Korea. “The speed of technological innovation has also consistently increased, unimaginably enabling PCS to dominate half the market only five years since its introduction.”²⁰⁷ Moreover, “necessary technological innovations under the inspiration of the computer science mode are actively supported by the new knowledge-based economy and consistent investment in R&D.”²⁰⁸ According to the 1995 US Intellectual Property Guidelines,²⁰⁹ even though we cannot explain beyond reasonable doubt or predict how a change in the structure of a relevant innovation market will affect the amount of R&D effort, the innovation markets consist of the R&D directed to particular new or improved goods or processes and the close substitutes for that research and development.

In particular, unlike other product markets, the mobile communications market – which consists of large numbers of consumers – is a typical case of a market giving rise to network effects and the value generated by product linkage, which is a unique and dynamic feature of high-innovation markets.²¹⁰ With growing numbers of anonymous subscribers comes a greater number of people who can be contacted through the network, resulting in ever-increasing value for existing subscribers and generating demand-side economies of scale, which in turn attract even more subscriptions. Because the cost of constructing efficient network services for each subscriber is reduced as more people subscribe, supply-side economies of scale exist in that marginal costs are lower than average costs. This allows mobile communications firms to dominate from their advantageous competitive position in the homogeneous market before their competition does and to build up monopoly power. Thus economies of scale in either demand or supply in consumption refer to the situation in which the greater the firm’s output is (at least up to some point), the more valuable that output is to its customers.²¹¹ It goes without saying that a telephone service is essentially worthless if there is only one subscriber, as that customer has no one to talk to. Thus the more subscribers, the more valuable the service is to each affiliated individual within the network, or at least, to many of them.²¹²

In the US, the current innovation market approach on merger assessment was first applied in 1993 when the DOJ, which is responsible for antitrust policy, opposed the merger approval of the Allison Transmission Division of General Motors and ZF Friedrichshafen under the new policy compendium.²¹³ In that case, the automatic

²⁰⁶ *id.*

²⁰⁷ *id.*

²⁰⁸ *id.*

²⁰⁹ US Department of Justice and Federal Trade Commission Antitrust Guidelines for the Licensing of Intellectual Property (1995).

²¹⁰ OECD Competition Committee, note 40, at 103.

²¹¹ Posner, note 41, at 928.

²¹² *id.*

²¹³ *United States v General Motors Corp*, Civ. No. 93-530 (D Del, Filed Nov. 16, 1993).

transmission production equipment of the merging firms were classified and characterised as specialised assets necessary for testing innovations in its geographic and relevant product market.²¹⁴ Yet the mobile communications market, which is still in its infancy, lacks other properties as well as the diverse characteristics of high-innovation markets, in contrast to other types of service markets. For example, it is simply believed that product differentiation and service performance generally play a greater role than reasonable pricing as a means of competition in high innovation markets, but in the mobile communications market, due to market participants' technology levels being all much the same, the traditional competition tool of pricing is also actively utilised.²¹⁵ Despite the difficulty of "direct price discrimination"²¹⁶ of service charges in Korea where mobile communications service charges are basically subject to strict government regulation, there are many cases in which price differentiation has repeatedly occurred through subscription agreement provisions subsidising mobile phone purchases, which the enterprise adopted as expedient.²¹⁷ Due to excess subsidies and serious consumer concerns, NGOs, rule makers, and government officials have been embroiled in controversy over the financial structure of mobile communications firms.²¹⁸

Moreover, it is extremely hard to find definite increasing returns to scale in the mobile communications market similar to those observed in the computer software or pharmaceuticals markets.²¹⁹ While substantial development costs are indispensable in computer software and drugs, once the products have been developed and released into the market the reproduction costs are close to zero, with a tendency towards very low marginal costs.²²⁰ Similarly, the mobile communications market also generates increasing cash returns to scale because initial investment costs for super expensive equipment and network building are high, but once the service network and machinery is constructed, marginal costs decline drastically with the rise in subscriptions.²²¹ Nevertheless, the increasing returns to scale identified in the mobile communications market are more similar to the effects of the economies of scale, first mover advantages, lock-in effect, superior frequency resources, and network externalities found in network industries than the results associated with high-innovation markets.²²²

²¹⁴ Rapp, note 43, at 21-22.

²¹⁵ One commentator noted that the "old" antitrust tools are sufficient to deal with innovation concerns: Gilbert & Sunshine, note 8, at 75.

²¹⁶ This means the business practice of selling the same service at different prices to different customers.

²¹⁷ OECD Competition Committee, note 40, at 103; Gilbert & Tom, note 4, at 46.

²¹⁸ OECD Competition Committee, note 40, at 103-04.

²¹⁹ *id.* at 103.

²²⁰ *id.*; However Posner points out this is still an overstatement because there are selling and servicing costs associated with each sale or rental software: Posner, note 41, at 927 n.3.

²²¹ OECD Competition Committee, note 40, at 103.

²²² *id.*

In summary, traditional stand-to-one-side antitrust analysis is and should be applicable to innovative industries only under narrowly defined circumstances. This analysis fills a void not covered by the traditional tools of merger analysis.²²³

5.2 Traditional approach to assessment

Arguments concerning merger review in innovation-intensive markets frequently include a dismissive explanation²²⁴ that the traditional approaches to merger assessment are often inappropriate in high-innovation markets because the law sometimes lags behind developing technology.²²⁵ This will be particularly true if the criteria are applied in ways which, while traditional, ought never to be used without contemplating their foundations.²²⁶ As competition on product differentiation rather than on pricing is the central issue,²²⁷ the most stringent existing way of defining markets in terms of demand substitution possibilities after price increase is considered unsuitable.²²⁸ Even if market shares could be determined, diverse external factors can affect the future market structure to such an extent that it is difficult to evaluate future market dominance on the basis of market share distribution at the time of the merger.²²⁹ Thus the traditional merger assessment approach is still valid in the mobile communications market.

The economic system of competition that applies here is that temporary monopoly power acquired through the production of a distinctive product may possibly become entrenched as the product becomes the basis of a standard or the network. This is in stark contrast with the traditional model that may be observed in a large number of agricultural procedures such as producing wheat.²³⁰ Such arguments are partially correct in the mobile communications market because it also features characteristics of high-innovation markets.²³¹ Analogue cellular phones fell out of fashion because of

²²³ Fisher, note 53, at 564, and Gilbert & Sunshine, note 8, at 76.

²²⁴ One of those arguments involves anticompetitive effects. For a more specific debate, *See* T. Muris, "Anticompetitive Effects in Monopolization Cases: Reply" (2000-2001) 68 *Antitrust Law Journal*, 325.

²²⁵ OECD Competition Committee, note 40, at 104.

²²⁶ Fisher, note 53, at 562.

²²⁷ Viscusi et al, note 2, at 64. The product differentiation is the modification of a product to make it more attractive to the target market. This involves differentiating it from competitors' products as well as the company's own product offerings. The changes are usually minor; they can be merely an alteration in packaging or an advertising theme. The physical product itself need not change, but it could. The objective of this strategy is to develop a position that potential customers will see as unique. If your target market sees your product as differing from that of competitors you will have more flexibility in developing your marketing mix. A successful product differentiation strategy will move your product from competing based primarily on price to competing on non-price factors (such as product characteristics, distribution strategy, or promotional variables.) The disadvantage of this repositioning is that it usually requires large advertising and production expenditures: *See* http://en.wikipedia.org/wiki/Product_differentiation (Last visited Sep. 10, 2007).

²²⁸ OECD Competition Committee, note 40, at 104, and Mankiw, note 47, at 68, who states that when a fall in the price of one service reduces the demand for other service, the two services are called substitutes.

²²⁹ *id.*

²³⁰ Summers, note 42, at 356.

²³¹ OECD Competition Committee, note 40, at 104.

their low signal quality and effective inability to carry anything other than audio transmissions, rendering them helpless to defend their market prospects against PCS, which could carry voice, image, and data transmissions.²³² However, the quality difference between cellular service and PCS has been largely eliminated as cellular service providers have developed the technology necessary to allow users to send data via a digital system, thus enabling price competition.²³³ Leaving aside communication quality, it is a fact that the mobile communications market provides low price elasticity which measures the rate of response of quantity demanded due to a price change,²³⁴ because the cost to subscribers of switching phone numbers is high.²³⁵ How do we interpret this under antitrust policy? Unfortunately, we are forced to conclude that such differentiation of services renders market definition impossible.²³⁶

In summary, the foregoing are only a few of the arguments, with the possibility of defining the mobile communications market through traditional approaches still left open so long as we adhere strictly to the terms.²³⁷ It is also true that successful high-tech companies are often aggressive in marketing their products, or service price and innovation meet the challenges of market paradigm shifts, but competition is still important. Robert Pitofsky, the former Chairman of the US FTC, notes this may be because it is likely that consumers would be better off with two or three aggressive companies, assuming the market can support more than one, rather than a single dominant firm.²³⁸ Based on rapid network advancement, once the high stability of market share in the mobile communications market is considered, a scheme assessing market dominance on the basis of market share at the time of a merger can also have significance even though the market faces unparalleled changes that are dismantling the boundaries between different industries.²³⁹ Here it should be noted that market share is just a way of estimating market power.²⁴⁰ This can be attributed to the entry hurdles of the market such as inherent network effects and the need to obtain government permits.²⁴¹ These issues will be further developed when their relationship to dynamic competition is discussed below.

²³² *id.*

²³³ *id.*

²³⁴ In economics, elasticity is the ratio of the incremental percentage change in one variable with respect to an incremental percentage change in another variable. Elasticity is usually expressed as a positive number (i.e., an absolute value) when the sign is already clear from context: See http://en.wikipedia.org/wiki/Price_elasticity (Last visited May 15, 2007).

²³⁵ OECD Competition Committee, note 40, at 104.

²³⁶ *id.*

²³⁷ *id.*

²³⁸ Pitofsky, note 40, at 918. The term 'dominant firm' can be used in a general sense that encompasses all forms of unilateral anticompetitive behavior. More commonly, however, the term is used (i) to describe conduct within a much narrower context or (ii) to describe a firm with a high market share without reference to whether or not that firm can exercise market power: Starek III & Stockum, note 55, at 803.

²³⁹ OECD Competition Committee, note 40, at 104.

²⁴⁰ Generally, market power means that a firm can raise the product price without suffering a significant decline in demand in the market: Viscusi et al, note 2, at 164; *Allen-Mayland, Inc v IBM Corp*, 33. F.3rd 194, 209 (3rd Circuit 1994).

²⁴¹ OECD Competition Committee, note 40, at 104.

5.3 Possibility of new market entry

Some argue that it is probable that dynamic competition within the communications industry will intensify over time, as incumbents are replaced in their dominant position by new entrants who are equipped with new technologies and develop superior products differing significantly from the existing ones.²⁴² Even if a firm dominates the market during a certain period of time with only invited competition, whatever it may meet in the communications market, it is unlikely to maintain that superior position indefinitely in the face of rapidly evolving technological innovation.²⁴³ Historically, it has been observed in various industries that new firms are an important source of innovation and dynamic efficiency.²⁴⁴ As such, “if a certain firm has kept its market dominance for a long time [vis-à-vis its competitors,] this can be seen as proof of its intensive efforts towards technological development.”²⁴⁵ It is evident that “[r]ecognising [winner-take-all] competition for the market in a broad sense could narrow the scope to which competition law can be applied.”²⁴⁶ So far as it may coexist with other entry barriers, “the possibility of new market entry through only technological innovation is limited in the mobile communications market.”²⁴⁷ Entry will occur and lead to price reductions only if prices are above the levels needed to cover entry costs.²⁴⁸ The possibilities for dynamic competition are always present in the mobile communications market because it is a lucrative one that also contains many factors pertinent to high-innovation markets.

In fact, by 2003, although PCS was introduced only six or seven years previously, “its subscription levels comprise[d] over 50% of the mobile communications market share.”²⁴⁹ In Korea, mobile phone services were first introduced on 29 March 1984, with PCS being introduced 12 years after cellular phones in 1996, but a mere seven years later the newcomer held a share of the mobile communications market equal to that of the cellular service providers.²⁵⁰ Therefore, all things being as they are, nobody can foretell the future of the teletopian world. “To go one step further into the future, when [the breakthrough] IMT-2000 services are more popularised to allow multi-media transmission of audio, data, and visual signals through synchronised IMT-2000 cellular systems, they are expected to replace a large portion of the existing mobile communications market.”²⁵¹ Sometimes a firm succeeds in launching new services by

²⁴² *id.*, and *See* Fisher, note 53, at 559.

²⁴³ OECD Competition Committee, note 40, at 104.

²⁴⁴ Viscusi et al, note 2, at 509.

²⁴⁵ OECD Competition Committee, note 40, at 104.

²⁴⁶ *id.* at 105; It is natural to wonder to what extent the slowdown in productivity growth is due to a rise in the amount of regulation. *See* Viscusi et al, note 2, at 511.

²⁴⁷ OECD Competition Committee, note 40, at 105.

²⁴⁸ Baumol & Swanson, note 7, at 661.

²⁴⁹ OECD Competition Committee, note 40, at 105.

²⁵⁰ *id.*

²⁵¹ *id.*

taking advantage of innovation; its business focus requires specialised R&D assets that happen to prove particularly valuable for new applications. At other times, a firm succeeds because it has the courage and foresight to pursue new business ventures favoured by a business boom and powered by a cascade of cash from surging investment surpluses.²⁵² Unfortunately, there are still numerous obstacles to dynamic competition in the mobile communications market.²⁵³

First, one must consider the constraints on factors critical to providing mobile phone services (i.e., “frequently resources and service providers must receive permits to access the necessary frequencies”).²⁵⁴ It is a matter of common sense that the required “government permissions can result in delays to market entry even when entrants possess sufficient capacity and technology.”²⁵⁵ As “most countries tend to comprehensively distribute [by assignment or allocation] their limited frequency resources in a specified period this amounts to governments exclusively determining the point at which new firms are allowed to enter the market.”²⁵⁶

Second, “owing to inherent network effects inside the particular situations in the mobile communication market, there is the risk that overconcentration of subscribers will be exacerbated in the resultant company whose number of subscribers will grow significantly after a merger.”²⁵⁷ In a survey regarding the SKT merger conducted by a public opinion research firm and reported by the OECD, network effects were clearly visible.²⁵⁸ The survey revealed that while the ratio of users intending to cancel service subscription was lowest among SKT customers, the rate of potential users hoping to subscribe to the same firm was overwhelmingly high.

Third, entry into the mobile communications market is made notably difficult by the very high initial investment costs necessarily entailed in constructing a service network prior to providing service.²⁵⁹

Fourth, whether or not they are current or prospective rivals, competitors can be excluded from the business race in the mobile communications market; thus monopoly power might be bolstered by using economically inefficient predatory pricing.²⁶⁰ This refers to deliberate price-cutting below average cost to eliminate rivals and arbitrarily raising the price to the monopoly level after their exit.²⁶¹ In Korea, firms cannot raise service fees directly because of the service charge regulation issued by the government, but indirect price competition takes place through subsidies of mobile phone

²⁵² Gilbert & Tom, note 4, at 59.

²⁵³ OECD Competition Committee, note 40, at 105.

²⁵⁴ *id.*

²⁵⁵ Baumol & Swanson, note 7, at 668-69.

²⁵⁶ OECD Competition Committee, note 40, at 105.

²⁵⁷ *id.*

²⁵⁸ *id.*, at 105.

²⁵⁹ *id.*

²⁶⁰ *id.*, and Viscusi et al, note 2, at 170, 277-83.

²⁶¹ Hylton, note 78, at 70-71.

purchases.²⁶² In fact, “there has recently been a move towards imposing institutional bans on excess competition in subsidies for unbridled customer’s mobile phone purchases for fear of deteriorating capital adequacy in mobile communications firms.”²⁶³ It may be seen as a hostile legal climate to enterprises, but the simple, forceful rules make it very easy to control the bitter competition in the market. “The factors discussed above comprise the circumstances under which the leading market player can further [strengthen] its market dominance [by nipping a rival in the bud] in the mobile communications market; therefore, there is a higher chance that dynamic competition will be limited.”²⁶⁴

Fifth, “corporate mergers in the mobile communications market have a tendency to provide merged companies with strong incentives and abilities under the cloak of management strategy for excluding competitors, raising entry costs,” or denying linkage of an essential facility for other common carriers.²⁶⁵

In the SKT merger case, the KFTC was concerned about the distribution network advantage and monopoly position in cellular phone demand, both of which SKT would secure after the merger.²⁶⁶ “Similar concerns have frequently become a reality,” with such events being apt to injure public welfare.²⁶⁷ For instance, tyrannising cases were “discovered where a mobile communications firm entering [into] a supply contract with a mobile phone manufacturer” prohibited the latter from supplying products to any competitor at a lower price.²⁶⁸ It is not surprising that although this method is almost obsolete, it is still in use.²⁶⁹ Furthermore, issuing membership cards allows mobile communications firms and credit card companies to work in concert against their competitors.²⁷⁰ Such business collaboration “to secure new subscribers and maintain existing ones” escalates the partner company.²⁷¹ What is more important – and what antitrust authorities should all be paying attention to – is when mobile communications firms enter into agreements that impose conditions on affiliated “card companies [that] prohibit them from cooperating with other competing communications service providers.”²⁷² As a typical marketing alliance it is an abuse of market-dominating positions by enterprises; I cannot see any sign of it leading to a change in the number of partner companies.

²⁶² OECD Competition Committee, note 40, at 105; *The Korea Times* reported that more than 80% of Koreans support phone subsidy policy. See text accompanying note 116.

²⁶³ *id.*, at 105.

²⁶⁴ *id.*

²⁶⁵ *id.*

²⁶⁶ *id.*

²⁶⁷ *id.*

²⁶⁸ *id.*

²⁶⁹ *id.*

²⁷⁰ *id.*

²⁷¹ *id.*

²⁷² *id.*

5.4 Policy implications

One of the unique economic trends in the last two decades is the strong tendency towards increasing mergers and acquisitions across the entire industry. Companies may have various motives for taking over another firm. It is for sure that companies may also have different reasons for actually wanting to be taken over. Among the reasons, the wish to eliminate a competitor from the market arena may point out the most undesirable motive of the takeover. In current case, the petitioner alleged many advantageous of the combination, and the next implications are memorable lesson for scholars, regulatory agency, judicial authorities, and policy makers.

When we talk about the innovation we normally mean products and processes that are new to the business firm. What we are looking for is the companies' ability to advance past modes and do things in a different way, so that they are able to compete in a quickly changing market.²⁷³ Therefore, regulatory authorities need to follow-up check whether governing rules are applicable upon the quickly changed situations. However they do not necessarily have to do things radically with different remedial measure to correct unless there is harm. For the economy as a whole, however, it helps to have companies that are able to bring out radical innovations—i.e., innovations that are not only new to the company, but also new to the market. They do, however, offer some insight into how such regulatory regime can support the market player's fair business competition in a given market.

Korea has a small internal market and the entire economy must rely on exports. In order to survive in global, cutthroat competitive markets, many of the companies need to grow in size. In addition, enterprises should get the huge weight which is needed to invest in innovation and marketing. In many cases this means that they will have to establish strategic alliances in size, buy other companies or be bought by them. In this respect, being taken over by a competing company can be a good alternative. However, to get government approval, a petitioner must show that the merger, no matter how justified its background or motive may be, is part of a genuine and fair expansion strategy.

Generally and realistically, a wide range of skills and capabilities are critical elements to firms' ability to pursue innovative and entrepreneurial opportunities. Therefore, to obtain a highly skilled workforce and presence of critical expertise may be justifiable in a general merger case. However, in the high-innovative mobile communication market the takeover often happens in order to remove a competitor rather getting a skillful workforce and unique expertise. A merged firm gets acquired by competing

²⁷³ See *International Shoe Co. v FTC*, 280 US 291 (1930); *Citizen Publishing Co. v United States*, 394 US 131 (1969); *United States v E I DuPont*, 351 US 377 (1956); *United States v Aluminum Co. of America*, 148 F.2d 416 (2d Cir. 1945); *Walker Process Equip. Co. v Food Mach. & Chem. Corp.*, 382 US 172, 177 (1965); *United States v Grinnell Corp.*, 384 US 563 (1966); *United States v United Shoe Mach. Corp.*, 110 F. Supp. 295 (D. Mass. 1953); *Eastman Kodak Co. v Image Technical Servs Inc.*, 504 US 451, 481 (1992); *Heartransfer Corp v Volkswagenwerk AG*, 553 F.2d 964 (5th Cir. 1977), cert denied, 443 US 1087 (1978); *Dr. Pepper/Seven-Up Companies v FTC*, 991 F.2d 859 (D.C.Cir. 1993); *Colo. Interstate Gas Co. v Natural Gas Pipeline Co.*, 885 F.2d 683, (10th Cir. 1989); *Exxon Corp. v Berwick Bay Real Estate Partners*, 748 F.2d 937, 940 (5th Cir. 1984); *Concord Boat Corp v Brunswick Corp.*, 207 F.3d 1039, 1059 (8th Cir. 2000); *Reazin v Blue Cross & Blue Shield of Kan Inc.*, 899 F.2d 951, 968 (10th Cir. 1990); *Springfield Terminal Ry. Co. v Canadian Pac Ltd*, 133 F.3d 103, 107 (1st Cir. 1997); *United States v General Motors Corp*, Civ No. 93-530 (D. Del. Filed Nov. 16, 1993); *Allen-Mayland Inc. v IBM Corp.*, 33. F3d 194, 209 (3d Cir. 1994).

firm only because they have competing lines of business. Therefore, the regulatory agency should make every effort to find a merging firm's latent intention.

Not surprisingly, easy access to technological capabilities of the competitor by merging is critical in many of the "new economy" areas, such as high speed internet computer technology, biotechnology, genetic engineering, mobile communication technology, and nanotechnologies. Access to specific technological fruits is often cited as one of the major reasons why merger firms want to be present in a certain market and/or overtake a certain competing firm. Therefore, the agency should have a clear rule regarding what merger effects bring about the networks and linkages between businesses and consumer welfare. In addition, what are the critical results of the merger in the development of innovative and dynamic economic regions should be considered.²⁷⁴

Here, in the SKT case, it must be noted that the petitioner's hidden business strategy may be obtained through good frequency resources. If Shinsegi successfully integrated into SKT, there are no competitors in cellular frequency band in Korea. However, the KFTC missed this point. Let this be a lesson to other jurisdictional authorities. In recent years, to maximize the investment profits, even foreign investors have been very keen on accessing, via takeovers, local markets, especially in mobile communications areas. Thus, the final focal point is the government agency should be prepared the rule for an examination whether it is a pure capital investment or taking over local firm for direct management.

6. Exceptions Regarding Mergers

A "horizontal merger provides the clearest example of possible anticompetitive effects."²⁷⁵ The reason, of course, is that "any such merger reduces the number of competitors and therefore raises the possibility of creating market power."²⁷⁶ However, "because mergers result in the integration of the firms' productive facilities, there is also the possibility of achieving socially beneficial cost savings."²⁷⁷ For this reason, the statutes allow some exceptions regarding mergers. In Korea, MRFTA Article 7(2) provides that:

[p]aragraph (1) shall not apply where the Fair Trade Commission deems that a combination of enterprises falls under any of the following sub-paragraphs. In this case, the parties concerned shall prove they meet one of these requirements: 1. the promotion of efficiency attainable through the combination of enterprises is greater than the negative effect produced by restricted competition; and 2. such combination is made with an unviable company falling under the requirements determined by Presidential decree, for

²⁷⁴ Commission of the European Communities, Communication from the Commission-Investing in Research: an Action Plan for Europe, {SEC(2003) 489} at 23 (¶ 63).

²⁷⁵ Viscusi et al, note 2, at 199.

²⁷⁶ id. For more on market power, See http://en.wikipedia.org/wiki/Market_power (Last visited Sep. 12, 2007).

²⁷⁷ Viscusi et al, note 2, at 199.

*example, a company whose total capital on a balance sheet is less than its paid-in capital for a reasonable period of time.*²⁷⁸

In the US, a merger between a failing company and a competitor is to be allowed in the absence of any other purchasers.²⁷⁹ The rationale is that “if the merger is disallowed and those assets and persons leave that market, the remaining firms have an increased share with fewer firms” in the market, leading to “more concentration.”²⁸⁰ If the merger is allowed, the same result occurs as “there is one fewer firm in the market and the acquired firm is larger” also leading to an “increased concentration.”²⁸¹

6.1 Where a merger is made with an unviable company

In the exceptional case defined in MRFTA Article 7(2), Sub-paragraph 2, the parties concerned must prove that the merger is being made with an unviable company as defined by Presidential decree, such as a company whose total capital on a balance sheet is less than its paid-in capital for a reasonable period of time. However, even where the case involves a merger with an unviable company, in order to qualify for exceptional treatment it must also conform with the requirements of a Presidential decree.²⁸² The KFTC Guidelines set forth the following two requirements:²⁸³

[First, t]he term “non-viable company” set forth in Article 7, Paragraph 2, Sub-paragraph 2 of the Act refers to companies that are in default due to an exacerbated financial position or are deemed to come into default in the near future. In judging non-viable companies, the following shall be taken into account (1) whether the company’s total shareholder equity in its balance sheet is less than the paid-in capital for a considerable period of time; (2) whether the company’s operating income is less than interest expense for a considerable period of time and the company is recording ordinary loss during that period of time; (3) whether the company filed for bankruptcy prescribed under Article 122(1) or Article 123(1) of the Bankruptcy Act; (4) whether the company filed for the commencement of composition prescribed under Article 13 of the Composition Act; (5) whether the company filed for commencement of liquidation procedure under Article 30 of the Corporation Liquidation Act; and (6) whether the company is under the management of its creditor financial institution, because the concerned company entered into a contract to delegate management to the financial institution in order to dispose of bad bonds.

²⁷⁸ The Enforcement Decree of the MRFTA, was lastly amended by Presidential Decree No. 17564, on March 30, 2002.

²⁷⁹ *Int’l Shoe Co, v FTC*, 280 US 291 (1930); *Citizen Pub’g Co, v United States*, 394 US 131, 138 (1969).

²⁸⁰ D Gifford & L Raskind, “Federal Antitrust Law: Cases and Materials” (1998), 502.

²⁸¹ *id.*

²⁸² Enforcement Decree of the Monopoly and Fair Trade Act. art XII, §§1-2.

²⁸³ KFTC Guidelines, §VIII.2.A and B

[Second, t]o grant an exception in a business merger, the following conditions shall be met even when a company is deemed unviable (1) when it is difficult to use the company's production facilities, etc. on a continuous basis in the concerned market by any other means than via the business merger; and (2) when it is difficult to come by a business merger that would be less likely to restrict competition than the concerned business merger being examined.

In the US, for this defence to be available the acquired company must be “in imminent danger of failure,” it must have “no realistic prospect for a successful reorganisation,” and there must be “no viable alternative purchaser.”²⁸⁴

The issue of whether the SKT/Shinsegi case falls within the above requirements thus needs to be examined. As of 31 December 1999, Shinsegi was in a state of KRW 4,789 billion capital encroachments with KRW 8,000 billion being the minimum capital it needed under its by-laws.²⁸⁵

Table 17. Shinsegi Telecom's Financial Situation (in billion KRW)²⁸⁶

	Total Assets	Paid-in capital	Total capital	Capital encroachment	Total liabilities	Sales	FY/net-income
31/12/1998	20,892	5,000	1,843	(3,157)	19,049	7,719	80.0
31/12/1999	21,666	8,000	3,211	(4,789)	18,455	12,523	52.3

However, Shinsegi could not be acknowledged as an unviable company under MRFTA Article 7(2), Sub-paragraph 2 because Shinsegi earned KRW 80 billion net income in FY1998, and KRW 52.3 billion net income in FY1999.

Table 18. Financial Situation by Classified Enterprise (as of 31 Dec. 1999 in billion KRW)²⁸⁷

	SKT	Shinsegi	KTF	LGT	Hansol
Earned surplus (loss)	13,918	(4,789)	(5,385)	(2,860)	(3,160)
FY1999 net income	3,041	52.3	(590)	(1,617)	(451)

²⁸⁴ *Dr. Pepper/Seven-Up Co. v FTC*, 991 F.2d 859, 864-65 (DC Cir 1993).

²⁸⁵ 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 18.

²⁸⁶ *id.* (“The category of sales is limited to services sales”).

²⁸⁷ *id.*

Interest cost/sales (in %)	3.11%	9.8%	11.7%	16.5%	9.0%
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Thus, it cannot be said that Shinsegi was an unviable company as defined under MRFTA Article 7(2), Sub-paragraph 2. Shinsegi's financial situation was similar to those of the three PCS companies, and the "interest cost" is given less weight in the amount of service sales.²⁸⁸ Presidential Decree, Article 12-4(1) is also not applicable to Shinsegi. In other words, Shinsegi could still raise funds in the capital market because its service sales had been continually increasing and it still had the potential to prosper in business. To be precise, Shinsegi earned service sales income of KRW 4,749 billion in 1997, KRW 7,719 billion in 1998, KRW 12,523 billion in 1999, and a projected KRW 18,435 billion in 2000.²⁸⁹ In addition, Shinsegi had increased its paid-in capital since incorporation, and because it had already equipped a nationwide network, even without a combination of enterprises, Shinsegi was unlikely to be expelled from the market.²⁹⁰

Table 19. Changes in Shinsegi's Capital Increases (in billion KRW)²⁹¹

	30/04/1994	29/06/1994	30/03/1995	10/12/1997	30/12/1998	20/04/1999	13/08/1999
Capital	58	1,000	3,500	4,000	5,000	6,000	8,000

Shinsegi did not conduct sales negotiations with companies other than SKT even though domestic and foreign companies had a strong interest in acquiring mobile communications firms.²⁹² Therefore, unless additional facts are allowed, it is unreasonable to rule out the possibility of a merger resulting in fewer restrictions on competition than this one.²⁹³ Accordingly, this case cannot be considered to fall within the MRFTA Article 7(2)(2) concerning mergers with an unviable company.

6.2 Where efficiency gains can be achieved through a merger

In the other exceptional case under MRFTA Article 7(2) where a merger is permissible, subparagraph 1 requires that the parties concerned shall provide clear and convincing evidence that the efficiency gains achievable through the merger are greater than the negative effect produced by the restrictions on competition. Here the promotion of economic efficiency²⁹⁴ is as defined in Fair Trade Commission Notification 1999-2,

²⁸⁸ *id.*

²⁸⁹ *id.*, at 19. The amount of presumed service sales in 2000 is taken from a report which was turned in to the KFTC by a concerned party.

²⁹⁰ *id.*

²⁹¹ *id.*

²⁹² *id.*

²⁹³ *id.*

²⁹⁴ Viscusi et al, note 2, at 75-88.

Notification on M&A Review Guidelines,²⁹⁵ s. VIII, 1, A., which provides that the “effect of enhancing efficiency” resulting from a business combination as defined in MRFTA Article 7(2)(1) of the Act refers to the enhanced efficiency in the areas of production, sales, and R&D, or to the effect of the promotion of efficiency on the national economy as a whole,²⁹⁶ which shall be determined based on the following:

*(a) whether the production cost can be reduced through the economies of scales, integration of production facilities, and rationalisation of production process, etc.; (b) whether the sales cost can be lowered or sales or exports can be boosted by integrating or sharing sales networks; (c) whether sales or exports can be boosted by sharing market information; (d) whether logistics cost can be cut by sharing transportation and storage facilities; (e) whether production-related technology and research abilities can be improved by complementing each other’s technology, or by sharing and effectively utilising skilful workforce, organisation and capital; and (f) whether other expenses can be significantly reduced.*²⁹⁷

In such cases, it must be clear that the efficiency gains will become evident in the near future. Whether the case under discussion falls within the above-mentioned requirements will now be analysed.

6.2.1 Gains from the integration of existing communication facilities (IS-95A/B):

Unlike price-fixing cartels, a merger involves “the integration of the firm’s facilities, which raises the possibility of socially beneficial economics of a combined operation.”²⁹⁸ “This difference explains the fact that price fixing is a *per se* offence while mergers are considered under the rule of reason.”²⁹⁹ SKT argued that the savings of operating and investment costs resulting from post-merger integration of the existing communication facilities (IS-95A/B) would amount to KRW 13,888 billion in the ten years after the merger.³⁰⁰ By integrating network switchboards, data system stations and transmission equipment (repeaters), KRW 9,997 billion of duplicated operating costs

²⁹⁵ Enacted by Fair Trade Commission Notification No. 1998-6, June 15, 1998; amended by Fair Trade Commission Notification No. 1999-2, April 15, 1999.

²⁹⁶ Balto & Nagata, note 195, at 309, 314; KFTC Guidelines, Section VIII (2) prescribes that [t]he effect of enhancing efficiency on the national economy as a whole shall be assessed by taking the following into consideration: (a) whether it makes a significant contribution to job creation; (b) whether it makes a significant contribution to the development of regional economies; (c) whether it makes a significant contribution to the development of forward and backward-related markets; (d) whether it makes a significant contribution to the stabilization of the nation’s economy by means of a stable supply of energy, etc; and (e) whether it makes a significant contribution to the improvement of environmental pollution.

²⁹⁷ *id.* §VIII.1.A.(1).(a)-(f).

²⁹⁸ Viscusi et al, note 2, at 198.

²⁹⁹ *Id.*, at 191.

³⁰⁰ 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 20.

could be saved, and KRW 3,891 billion in new investment could be avoided in non-service areas (or coverage holes) and new residential areas.³⁰¹

Table 20. Cost of equipment investment (in billion KRW)³⁰²

Classification		Pre-merger			Post-merger (B)	Saving (A-B)	Effective Year
		SKT	Shinsegi	Total (A)			
IS-95 A/B	Investment	10,285	7,581	17,866	13,975	3,891	2000-2009
	Operating cost	40,007	21,687	61,694	51,697	9,997	
	Total	50,292	29,268	79,560	65,672	13,888	

According to the KFTC's decision, SKT's existing network integration plan was as follows: First, SKT would transplant network switchboards from Shinsegi to its stations in 2000, with each facility operating in parallel until 2002. Transplanted equipment would be removed from its station; thereafter, only SKT's equipment would be in normal service. Second, with regard to the data system station, the communication facilities could be integrated only if both companies were using the same type of equipment. Thus, since the data system station would be integrated only in Kyungbuk Province in 2000, both companies' communication networks would be operated in parallel until 2002, with Shinsegi's equipment being removed in 2003. Then, only SKT's data system stations would be kept in service. Third, regarding the repeaters, SKT's equipment would be taken into service in 2000 in Kyungbuk Province, with Shinsegi's being removed. In other regions the transmission equipment would be operated in parallel until 2002; Shinsegi's repeaters would then be removed in 2003, and only SKT's would remain in service thereafter. Moreover, SKT asserted that it planned to remove Shinsegi's existing communication network in 2003. If accepted, both companies' subscribers to SKT's existing equipment (IS-95A/B) would have difficulties as it was expected they would be ill-equipped. Therefore, SKT intended to alternate with IS-95C service, which was introduced in the second half of 2000.³⁰³ SKT further asserted that Shinsegi's existing communication network would be removed, with both companies' subscribers obtaining reception until 2003 only from SKT's existing equipment (IS-95A/B). This was based on the expectation that at the end of 2002, 42% of the total number of subscribers would be IS-95C subscribers, even though that was perhaps painting an over-optimistic picture of the future (but one that could possibly be contingent upon SKT's marketing style). Considering all these assertions together, the efficiency gains available through integration of the existing networks were restricted because both companies' nationwide network installations would

³⁰¹ id.

³⁰² id.

³⁰³ "It is anticipated that both companies' total IS-95C subscribers amount to 42% (7,437,211 persons), both companies' total IS-95A/B subscribers reach 55% (9,292,137 persons) of total subscribers as of December 2002, and at present, SKT's facilities are insufficient to receive all subscribers." See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 21.

already have been completed after the merger. Of course, the petitioner considered this point and argued that only the limited scope of the integration effect should be accepted. Thus, both the operating cost and the investment reduction gains from the merging of the two existing communication networks (IS-95A/B) were acknowledged.

6.2.2 Gains from exporting surplus equipment:

The KFTC noted that SKT alleged that it would gain KRW 5,387 billion (30% of acquisition cost) through exports of Shinsegi's surplus equipment to other countries. However, Shinsegi's existing equipment was IS-95A and had already been in use for 4-7 years by 2003. Thus, it could be presumed that high quality and technologically improved communication facilities would be in general use, making old-fashioned equipment not very easy to export. Furthermore, the machines were composed of three different manufacturers' parts (Samsung Electronics Co, Hynix Semiconductor Inc, and Lucent Technologies Inc), which could raise A/S problems after export. Moreover, the list of potential export countries was limited to China, Vietnam, and Mongolia. Taken together, these factors indicated that the possibility of export was uncertain, so an expected export increase effect could not be confirmed.³⁰⁴ Note that the argument based on this logic does not depend on market share.

Table 21. Removed Equipment & Expected Export Price (in billion KRW)³⁰⁵

	Surplus facilities	Cost of acquisition	Expected sales price
Network switchboard (Mode)	22	4,040	1,212
Data system station (Stand)	2,738	11,096	3,329
Transmission equipment (Stand)	30,446	2,820	846
Total	-	17,956	5,387

6.2.3 Gains relating to the IS-95C Communication Network:

SKT contended that as duplicated investment could be avoided via jointly installed IS-95C communication facilities, the investment of KRW 15,925 billion would be reduced over the next 10 years. However, the IS-95C was a temporary project before the IMT-2000 service began, and would be abandoned thereafter. The IS-95C service was intended for 75 cities nationwide, with the IMT-2000 project covering the same cities. Thus, possible disruptions to the IS-95C services by the IMT-2000 services could easily be predicted. However, considering the cut-throat competition existing among the five enterprises, each company would very likely be forced to continue to invest to defend its market until the IMT-2000 service was introduced in 2002. SKT's contention that

³⁰⁴ id. If, as often presumed, the geographic dimensions of a relevant market denote the location of the consumers in the market, the market shares must tend to include imports and exclude exports: *See* Werden III, note 73, at 95.

³⁰⁵ *See* 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 21.

the merger would enable it to avoid duplicated investment could not therefore justly be upheld. Because the IS-95C was a newly installed facility within both companies, duplicated investment could have been avoided more simply by an affiliation between enterprises rather than a merger.

Table 22. IS-95C Network-Related Efficiency Savings (in billion KRW)³⁰⁶

		Pre-merger investment			Post-Merger (B)	Saving (A-B)	Effective Year
		SKT	Shinsegi	Total (A)			
IS-95C	Investment	21,731	11,265	32,996	24,917	8,079	2000-2009
	Operating cost	20,563	10,216	30,779	22,933	7,846	
	Total	42,294	21,481	63,775	47,850	15,925	

6.2.4 Gains relating to the IMT-2000 communication network:

SKT asserted that basic communication facilities such as network switchboards, data system stations and transmission equipment (repeaters) needed to be reinstalled for full-time provision of the IMT-2000 service. Duplicated investment would thus be a necessity, with no other means of preventing this unreasonable and prodigal investment other than the merger. The petitioner described three alternative scenarios to its IMT-2000 business strategy: the first, where both companies obtained business approval for IMT-2000 (KRW 43,833 billion over eight years); the second, where only SKT obtained approval (KRW 36,853 billion); and the third, where neither company obtained approval (KRW 36,596 billion). If SKT failed to obtain approval for the IMT-2000 business, the plan presupposed that SKT would provide the same level of service as IMT-2000 by improving its IS-95C facilities. The government, the MIC, would likely select the IMT-2000 project enterprises after sufficient examination in order to avoid the harmful effect of duplicated investment while securing consumer interest through fair competition. However, at the time of the decision, because the IMT-2000 project enterprise had not been selected, the IMT-2000 communication network-related savings based on the first plan could not be admitted as an efficiency gain. Moreover, as they used old equipment instead of the IMT-2000 service, the second and third plans still contained uncertainty regarding the adequacy of investment. Therefore, it is hard to see how the merger would produce an efficiency gain here.

Table 23. IMT-2000 Network-Related Savings (in billion KRW)³⁰⁷

Classification	Pre-merger			Post-merger (B)	Saving (A-B)	Effective Year
	SKT	Shinsegi	Total (A)			

³⁰⁶ See id, at 22.

³⁰⁷ id.

Plan I	Investment	51,594	36,435	88,029	56,390	31,639	2002-2009
	Total	91,859	55,002	146,861	102,978	43,833	
Plan II	Investment	51,594	32,276	83,871	56,390	27,481	2002-2009
	Total	91,859	47,676	139,533	102,680	36,853	
Plan III	Investment	48,403	32,276	80,680	53,456	27,223	2002-2009
	Total	85,290	47,676	132,964	96,368	36,596	

6.2.5. Gains from marketing organisation collaboration:

SKT asserted that there would be a KRW 703 billion cost reduction occurring over the next 10 years through the unification of Shinsegi's six branches and 29 business centres with SKT's six branches, 23 business centres, and 43 local offices.³⁰⁸ Generally, when a merger occurs, operating costs such as rental fees, utility fees, packaging and carriage cost, and distribution expenses can be reduced by combining the marketing organisation. Thus, the petitioner's assertion was accepted.

6.2.6 Gains from phone price decreases:

SKT further asserted that after the merger, both companies would jointly purchase cellular phones, which would lead to price cutting.³⁰⁹ The total amount of curtailment was estimated to reach KRW 10,412 billion for the next 10 years. This calculation was based on the fact that if the price of Shinsegi's total purchasing quantity went down to the level of SKT's purchasing price, price cuts would be expected to amount to an average of KRW 40,000 per phone. If this applied to both companies' total purchasing quantities, a 5% additional reduction would be effective. The cellular phones that SKT and Shinsegi offered subscribers were almost identical items manufactured through similar processes. If the two companies combined, their total quantities of phones purchased would still be the same before and after combining, making it difficult to imagine that the merger would lead to a decrease in phone manufacturers' production costs. However, when considering the top three phone manufacturers' share of the domestic phone market (Samsung Electronics Co, had 49.7%, LG Telecom Co, 22.9%, and Motorola Inc, 15.0% as of 1999, totalling 87.6%), the market structure would be a monopoly and an oligopoly. Therefore, at the time, the phone price seemed to be a monopoly price. Under such premises, a price reduction followed by joint purchasing would bring down the phone manufacturers' monopoly and oligopoly profits and enhance consumer welfare. Thus, this could be regarded as an efficiency gain. In addition, "the larger size resulting from the merger may give the combined firm bargaining strength relative to its supplies."³¹⁰

³⁰⁸ id, at 24.

³⁰⁹ id.

³¹⁰ Viscusi et al, note 2, at 195.

Table 24. Savings Through Co-Operative Phone Purchasing (in billion KRW)³¹¹

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Shinsegi	678	632	612	613	624	637	650	661	672	681	6,430
SKT	524	433	375	350	358	367	375	383	390	397	3,952
Total	1,202	1,065	987	963	982	1,004	1,025	1,044	1,062	1,078	10,412

6.2.7. Gains from pooled R&D results:

SKT submitted that because both companies would utilise the results of their pooled R&D after the merger, the sum of each company's R&D costs (KRW 17,599 billion for SKT and KRW 2,773 billion for Shinsegi) was the economic efficiency gain, with the amount reaching a total of KRW 20,372 billion over the next 10 years. It is unclear whether there was any doubt that after the merger, SKT's total R&D expenditure would be reduced.³¹² Because "the outcome of R&D expenditure is uncertain and many factors influence the incentive to invest in the development of new products and process,"³¹³ the R&D cost-related efficiency gain acknowledged only reduced amounts when comparing the situation before and after merger.³¹⁴ In addition, as compared to SKT, Shinsegi was a start-up company. This meant that its total time in business was comparatively short, and if Shinsegi used SKT's high technology with its superior standing, it need not make an independent investment into development. Thus, it may perhaps be argued that only Shinsegi's R&D costs could be considered an efficiency gain.

In the US, one commentator has argued that "there are no buy/sell transactions involved in [R&D] solely for the internal use of the firm, [and] it is not until the R&D produces innovation, and the innovation is offered for sale, that a market comes into existence."³¹⁵ "When we use the term "innovation market" to apply the R&D effect, we are inclined to make an error that supposes that innovation and R&D are the same thing."³¹⁶ In the US case in which Flow International attempted to acquire Ingersoll-Rand's Waterjet Cutting Systems Division, the petitioner alleged that "competition between the two firms extended into R&D and technological innovation."³¹⁷ However, in 1994 the DOJ opposed the merger on the grounds that "competition would be significantly reduced by the combination."³¹⁸ With that and "the filing of complaints the

³¹¹ 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 24.

³¹² If this argument had arisen, the only remaining question would have been whether that reduction in R&D effort would result in a slackened pace of innovation: *id.*

³¹³ Gilbert & Sunshine, note 8, at 76.

³¹⁴ 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 25.

³¹⁵ Hoerner, note 6, at 51. (emphasis changed)

³¹⁶ Rapp, note 43, at 27.

³¹⁷ *id.* at 21-22.

³¹⁸ *id.*

merger was quickly abandoned by the parties.”³¹⁹ However, this leaves something to be desired because it does little or nothing to remove the confusion concerning whether innovation and R&D are the same thing.

6.2.8 Gains from reduced charges:

SKT submitted that by lowering its charges by 7% to Shinsegi’s charge level, the subscriber’s burden would come down at some point.³²⁰ This would constitute a KRW 8,760 billion economic efficiency gain over the next 10 years.³²¹ However, because of the merger, SKT’s market-dominating power in the mobile communications market might boost its strength considerably and reduce the possibility of lowered charges.³²² In addition, “the microeconomic theory that grounds modern antitrust law assumes that consumers enter into contracts to maximise their own preferences unaffected by how others are exercising their own economic freedom.”³²³ Therefore, the petitioner’s arguments regarding cutting the consumer burden start from the wrong premises and are hard to sustain.

6.2.9 Gains from reallocation of frequencies:

Besides military reasons, because the commercially beneficial electromagnetic spectrum is a limited resource, the use of its radio frequency bands “is regulated by governments in most countries through a process known as frequency allocation or spectrum distribution.”³²⁴ “Radio propagation and RF technology do not stop at national boundaries, and there are strong technical and economic incentives for governments to adopt harmonised spectrum allocation standards.”³²⁵ “A number of bodies work on standards for frequency allocation, including: the International Telecommunication Union (ITU), European Conference of Postal and Telecommunications Administrations (CEPT), European Telecommunications Standards Institute (ETSI), and the International Special Committee on Radio Interference (CISPR).”

High-demand sections of the electromagnetic spectrum may sometimes be allocated through auctions rather than assignment.³²⁶ In this case, the 12.5 MHz (Channels 3 to 9 plus Channels 18 to 20) then assigned to petitioner SKT was insufficient for service to its subscribers, while through the merger this problem could be solved by taking into service four channels on the cellular frequency band which had hitherto been reserved

³¹⁹ *id.*

³²⁰ *id.* at 26.

³²¹ *id.*

³²² *id.*

³²³ Ross, note 69, at 950.

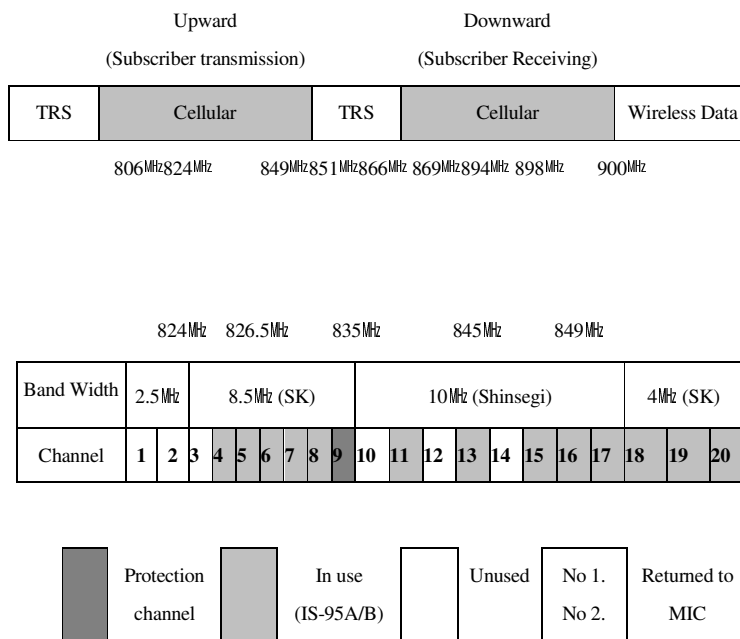
³²⁴ See http://en.wikipedia.org/wiki/Frequency_allocation (Last visited May 20, 2007).

³²⁵ *Ibid.*

³²⁶ Gheeyoung Noh, [Korean language] “Regulatory Symmetry and Competitive Bidding in Mobile Radio Telecommunication Services: FCC Spectrum Policy” (Winter 2003) Vol 10. No 4 *Jeongbohwaajeongchek*, [Information Policy], 18-35.

because of wave interference on the cellular frequency band, but would be put in use.³²⁷ Further, SKT contended that it needed to secure a frequency to promote its wireless multimedia data service.³²⁸ The cellular frequency band consists of a total of 20 channels (see figures below), with 10 channels assigned to SKT and eight to Shinsegi. Channels 1 and 2 are hard to use because of the frequency modulation produced between them and Channels 18, 19, and 20. These channels were assigned to SKT at first but were returned to MIC on 31 December 1999. Channels 9 and 17 were used as buffer channels between the enterprises because of wave interferences between them. SKT alleged that the merger allowed the possibility of using four channels (1, 2, 9, and 17), which would provide a utility value amounting to KRW 51,149 billion.

Figure 2. Frequency Band Assignment³²⁹



At the time, as noted in the KFTC decision, SKT’s frequency was sufficient for mobile communication voice data service, but thereafter, if mobile phone data service multiplied, there might be a lack of frequency.³³⁰ SKT had presently retained, but not employed, two channels (3 and 9) with frequency capacity needing to be increased by reallocation. SKT also needed to set up more data system stations and optical

³²⁷ “Wave interference is the phenomenon which occurs when two waves meet while traveling along the same medium. The interference of waves causes the medium to take on a shape which results from the net effect of the two individual waves upon the particles of the medium.”

See <http://www.glenbrook.k12.il.us/gbssci/phys/Class/waves/u10l3c.html> (Last visited Sep. 12, 2007).

³²⁸ 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 26.

³²⁹ *id.* at 27.

³³⁰ *id.*

transmission equipment.³³¹ Under the Korean Radio Wave Act, Articles 14 and 17,³³² this problem could be solved by Shinsegi through the transfer of the right of frequency use and the commencement of IMT-2000 service in 2002. Thus the frequency shortage might end in 2002. SKT presumed that 3% of the total subscribers in 2002 and 19% of the total subscribers in 2003 would be IMT-2000 service subscribers. SKT had used Channels 1 and 2 for its own business purposes, then handed them to the MIC, assuming that they would be reassigned and efficiency would be increased. However, channel reassignment required MIC approval; furthermore, economic efficiency could be promoted through means other than merger. The intermodulation crosstalk which happened on Channels 1 and 2 also occurred on Channels 18, 19, and 20. In the case of the same service being provided at the same time, if SKT applied Channels 1 and 2 over the IS-95C service, no opening would have taken place by the end of 2000. In this case, the availability of Channels 1 and 2 was not the effect of the merger but of the introduction of the IS-95C service. Thus it is difficult to consider this an efficiency gain resulting from a merger. It was acknowledged that two channels (9, 17) within the protected frequency band (which were not being used for service in the existing cellular frequency band) could possibly be made available as a result of the merger.

Even if this is acknowledged as an economic efficiency gain, SKT and Shinsegi would still have to confront the problem of frequency being in short supply when they used these channels after the merger; that is, the two remaining unallocated channels (1, 2) within the cellular frequency band and the protected channel (9) would have to be used only if there were still a frequency shortage after the two companies' four existing unused channels (one for SKT, three for Shinsegi) were employed.³³³ However, there was little likelihood that the protected channel would be used after all the above six channels had been used. It was estimated that the increase in both companies' subscribers would be nearly four million by the end of 2002. In addition, with the introduction of IMT-2000, additional frequencies might be allotted to the enterprises. It

³³¹ See http://www.iec.org/online/tutorials/opt_trans/topic02.html (Last visited Sep. 13, 2007).

³³² The Korean Radio Waves Act ("KRWA") provides: (1) Any person who has been allotted frequencies ... shall hold the right to exclusively utilize the frequencies concerned (hereinafter referred to as the "right to the utilization of frequencies"). (2) Any person who has been allotted frequencies ... may transfer the right to the utilization of frequencies after the lapse of the period prescribed by the Presidential Decree. Provided that the event the person who has been allotted the frequencies becomes subjected to bankruptcy or other drastic change in economic conditions as prescribed by the Presidential Decree, he may transfer his right to the utilization of frequencies prior to the lapse of such period. (3) Any person who has been transferred the right to the utilization of frequencies ... shall get approval from the Minister of Information and Communication as prescribed by the Ordinance of the Ministry of Information and Communication. (4) Any person who has been granted approval ... shall succeed to the status of the person who has been allotted the frequencies ...] and of the installer (limited to the case where a person, who has been granted frequencies has filed a report with respect to the opening of a wireless station). (5) The provisions of Article 13 shall apply *mutatis mutandis* to the transfer of the right to the utilization of frequencies. Art. 14 provides: (1) The Minister of Information and Communication may, in the event that the frequencies allotted in accordance with the provisions of Article 12 are deemed to fall ..., convert the person who has been allotted the frequencies in question into the person who has been allotted the frequencies ... (2) With respect to any person who intends to get his allotted frequencies converted under paragraph (1), the Minister of Information and Communication may require him to pay the amount computed according to the standards prescribed by the Presidential Decree. (3) Any wireless station which was opened by any person before he gets his frequencies converted ... shall be deemed the wireless station which he opens after filing a report thereof ... at the time that he gets his frequencies converted. ...

³³³ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 27.

is easy to see that the use of the protected band channel was unnecessary. Therefore, there was no possibility that there would be a usage conflict between these channels over the short haul, so the economic efficiency gain resulting from the merger was not a given.

6.2.10 Gains from the information-oriented society:

SKT asserted that after the merger, it would be able to cut down on its excessive investment and put its money into an advanced communication network; the result of this investment change would allow SKT to globalise its internet-based business company and also promote an information-oriented society by increasing the number of subscribers. However, it was possible that the combined 11.3 million subscribers (as of 31 March 2000) would spread SKT's monopolised status to other industries. For example, starting with its internet (*e.g.* NetsGo) business, SKT had succeeded in adding subscribers by using existing mobile phones or its exclusive agency. SK Tellink Co's international phone resale business was similarly subject to the petitioner's influence. Therefore, SKT's argument that promotion of an information-oriented society was an economic efficiency gain should be rejected.

6.2.11 Gains from the industry linkage effect:

SKT alleged that a forward and backward industry "linkage effect"³³⁴ would appear after this merger through centralised investment leading to an advanced network environment in the phone, network facilities, and communication equipment industry.³³⁵ Furthermore, SKT insisted that along with the above industry's development, there was the prospect of considerable forward and backward industry linkage effects. The KFTC feared that, on the contrary, restricted competitiveness would emerge in the cellular phone market with SKC's monopsony post-merger. Thus, forward and backward industry linkage effects are not a given as an economic efficiency gain. Note that there is little in the history of modern technology to suggest that firms are able to monopolise innovative capacity.³³⁶

6.2.12 Gains from enhanced international competitiveness:

SKT contended that if the merger was allowed and its business size was enlarged, its status would change as a potential partner for international affiliation in its industry.³³⁷ This would be advantageous in its licensing or negotiating among other foreign business partners, especially because it could then hold a favourable position with Chinese and Japanese enterprises in East Asia Telephone Communication Sphere Negotiations.³³⁸ Moreover, SKT averred that its enhanced technological competitiveness by joint application of technical cooperation might enable it to take the

³³⁴ All industry is linked directly or indirectly with other industries. Thus, if a specific industry's production level is changed, it affects other industries which are related to its material or which are indispensable for its parts or products. This is called the linkage effect, and may be classified as either a forward linkage effect or backward linkage effect.

³³⁵ 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 29.

³³⁶ Rapp, note 43, at 36.

³³⁷ 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 29.

³³⁸ *See id.*

initiative in the Operator Harmonisation Group (OHG) and the IMT-2000 technology standardisation working organisation under the control of the ITU.³³⁹

The ability to compete is often determined mainly by intangible assets, such as intellectual property rights related to critical technologies, established brands, and reputation for superior performance.³⁴⁰ Thus, the KFTC accepted the submission that the merger would enhance the petitioner's ability to compete with foreign entities.³⁴¹ It was generally acknowledged that if SKT could become a partner in an international co-operation, it would go far toward contributing to technological competitiveness build-up by joint application of technical cooperation with foreign enterprises, and it might take the initiative at OHG negotiations.³⁴² Thus, the extrapolations from results obtained from the merger were valid.

6.3 Balance test

To assess whether the promotion of efficiency is attainable through the merging of enterprises, a balancing test is appropriate between restricted competition and efficiency gains. In other words, a balancing of pro-competitive benefits and anticompetitive drawbacks is necessary whenever behaviour has the potential to simultaneously increase efficiency and market power.³⁴³ Traditionally, cases at the intersection between intellectual property and antitrust have been analysed from the standpoint of maximisation of consumer welfare by examining the impact on economic incentives to innovate and balancing these incentives against anticompetitive effects.³⁴⁴

In this case, according to the MRFTA, restricted competition was presumed from the perspective of market share. Because of a frequency assignment problem, it was almost impossible for a new market player to break into the domestic mobile communications market. Compared with its competitors, SKT had a superior network coverage,³⁴⁵ financial structure,³⁴⁶ distribution network³⁴⁷ and R&D capacity.³⁴⁸ Thus it could be easily concluded that its market dominating power would be reinforced.³⁴⁹ The merger made it easy for the expanded company to gain significant advantage over its competitors by network externalities in the mobile communications market. Moreover, there was no feasible way of increasing charges in the immediate aftermath of a merger because a subscribing agreement approval system was in force. On the one hand, consumer welfare is expected to suffer through the delay of technology development by

³³⁹ See *id.*

³⁴⁰ See *Werden III*, note 73, at 85.

³⁴¹ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 29.

³⁴² See *id.*

³⁴³ See *Ross*, note 69, at 953.

³⁴⁴ See *Pitofsky*, note 40, at 923-24.

³⁴⁵ See *Ibid* Figure 2.

³⁴⁶ See *id.* Tables 10, 13.

³⁴⁷ See *id.* Tables 22-23.

³⁴⁸ See *id.* Table 12.

³⁴⁹ See OECD Competition Committee, note 40, at 101-03.

reduced competition and the postponement of charge reductions, the scaling down of additional services, etc. On the other hand, admittedly there would be economic efficiency gains as a result of integrated operation of the communication networks; avoidance of new investment related to the existing communication networks; avoidance of the overlap of R&D; reduction of phone purchase price, etc. In addition, SKT would be able to take the initiative in international cooperative tasks.

In conclusion, this case does not fall within the MRFTA Article 7(2)(1), where the promotion of efficiency attainable through the merger of enterprises is greater than the negative effect produced by restricted competition. The restriction on competition was considerable, while on the other hand the economic efficiency gains were not so high as to exceed the harm from reduced competition.

6.4 Summary and policy recommendations

KFTC acknowledged only partial and positive effect of the merger. Those are network operating cost reduction effect, marketing organisation joint use effect after merging. R&D cost savings acknowledged only Shinsegi's current amount of cost. Phone purchasing price reduction effect acknowledged only on condition that phone price was a monopoly-oligopoly item. KFTC concluded that SKT might be unable to export used equipment. Regarding joint investment effect, KFTC did not agree with the petitioner's claim by reason that a merger could not be accepted as the sole means of achieving savings in the prevailing circumstances. The future investment plan (i.e., IMT-2000) was not acknowledged, because enterprise had not yet been appointed. Communication charge reduction effect also rejected, because market-dominating power would be consolidated by merger. Finally, frequency resources application effect claim was rejected, because there was no means of using the unused channel and it is impossible to use other than by the combination. In summary, all arguments have been organised in the following Table 25, which indicates the total accepted efficiency by the KFTC in terms of a monetary standard because sometimes the use of denominations may be a simple solution to complex issues.

Table 25. Summary of Efficiency Gains Resulting from SKT/Shinsegi Merger (in KRW billion)³⁵⁰

Details		SKT's claim	Accepted by KFTC
IS-95A/B network integration	Investment	3,891	3,891
	Operating cost	9,997	9,997
	Total	13,888	13,888
	Export effect	5,387	-
IS-95C	Investment	8,079	-

³⁵⁰ See 2000 *Kikyul* 0129, (KFTC decision 2000-76, May 16, 2000), at 30.

joint investment	Operating cost	7,846	-
	Total	15,925	-
IMT-2000 joint investment (Plan I)	Investment	31,639	-
	Operating cost	12,244	-
	Total	43,883	-
Marketing organisation joint use effect		703	703
Phone purchasing price reduction effect		10,412	10,412
R&D effect		20,372	2,773
Charge reduction effect		8,760	-
Frequency resources application effect		51,149	-
Total		170,479	27,776

Upon above determination, we can next draw policy recommendations. First, a quantitative analysis of the communication firm merger effects is useful tools concerning the firms' innovation performance. In general and in most sectors, a competitive economy is not only a good thing, but probably an increasingly important national asset and source of wealth.³⁵¹ As can be seen from the discussion above, a takeover of one firm by another in this particular situation could lead to savings by replacing an inefficient management structure with a more efficient one³⁵² leading to efficiency gains of up to KRW 27,776 billion each year for a total of KRW 2,777 billion during a 10-year period.

If the realized synergy effects through the merger are lower than before, government authorities should not approve the enterprise combination. However, it is generally acknowledged that though the combination enterprise can be followed, the global trend is that the communications industry is growing larger and has contributed to the enhancement of international competition. Therefore, under this perspective, the regulatory agency may consider whether the exceptional remedy may be given to the pending case.

Second, it is a supplemental lesson for policy makers, how the merger has affected firm's innovation capabilities and reduces anti-competitiveness and consumer welfare, not only in the acquired firms but also in the surrounding innovation markets. It is also expected that the combination would afford provider's services to the subscriber who wants to use worldwide contents, which is difficult to quantify numerically.³⁵³ In any case, however, the consumer welfares should not be ignored.

³⁵¹ See Summers, note 42, at 357.

³⁵² See Viscusi et al, note 2, at 196.

³⁵³ See Ross, note 69, at 945.

Third, with respect to cost savings, the KFTC found that only a small fraction of the asserted savings would reduce marginal rather than fixed or overhead costs, with this reduction doing little to offset the anticompetitive effect of the merger on price and service.³⁵⁴

7. Corrective Measures

A principal goal of antitrust legislation is to maximise allocative efficiency by preventing anticompetitive measures such as artificial limitations of output and increases in price.³⁵⁵ A laissez-faire approach to an antitrust case would be to do nothing, i.e, to limit antitrust intervention to condemning behaviour only where there is a high probability of demonstrably harmful conduct.³⁵⁶ On the other hand, if the government is required to wait until the fruits of monopolistic conduct are fully realised, stronger remedies may be required to undo the conduct's harmful effects.³⁵⁷

Although acknowledging that four major communication firms would still be competing with each other in Korea, the KFTC commissioners held that a merger in this case would adversely impact the existing communications market. Although the KFTC had to sustain the burden of proof that a proposed merger was likely to be anticompetitive, SKT failed to show anecdotal and statistical evidence to allay the concerns of Korean antitrust policy enforcers. Thus, because anticompetitive harm might arise throughout the entire communications market from the SKT/Shinsegi merger, effectively the only course of action open to the tribunal was to apply extensive corrective measures. However, determining the appropriate corrective measures to be taken was not so easy.³⁵⁸

The government typically does not seek monetary damages in monopoly cases, but rather takes action primarily as a prophylactic measure.³⁵⁹ Imposing corrective measures against ruinous anti-competition in the mobile communications market is a very difficult task because the finding of a violation requires a determination of conduct based on the MRFTA.³⁶⁰ “The KFTC’s decision to allow the merger, while ordering corrective measures for SKT to reduce its market share to 50%, was an attempt by the KFTC to take into account the characteristics in the network industry of mobile communications services and simultaneously minimise the harms arising from restraints to competition.”³⁶¹ These corrective measures, based on the MRFTA, limit the market share of the top firm to 50% within the specified time period.³⁶²

³⁵⁴ See Kolasky, note 72, at 795.

³⁵⁵ See Davis, note 48, at 680.

³⁵⁶ See Ross, note 69, at 947.

³⁵⁷ See Balto & Nagata, note 195, at 322.

³⁵⁸ See OECD Competition Committee, note 40, at 106.

³⁵⁹ See Balto & Nagata, note 195, at 322.

³⁶⁰ “At an early stage of monopolization, a ‘conduct’ remedy may be sufficient—perhaps simply an injunction against the conduct. After a monopoly is fully entrenched, a more far-reaching remedy may be required—perhaps even a breakup of the company.” *id.* at 322.

³⁶¹ See OECD Competition Committee, note 40, at 106.

³⁶² No restrictions of corrective measure are in the MRFTA. The MRFTA Article 16 (Corrective Measures) prescribes that: (1) Where any company has violated or is likely to violate the provisions of

However, these measures also faced a great deal of criticism,³⁶³ primarily because the directives could not easily be followed.³⁶⁴ To carry out the conditions of the corrective measures, “SKT needed to force their subscribers to cancel their contracts.”³⁶⁵ No matter how small this number may be, “this [requirement] could also infringe on the rights of those customers.”³⁶⁶ Some might have also argued that “competition restraints could not be fully corrected simply by limiting market share without undertaking structural firm separation.”³⁶⁷

The final criticism is that we see no clear statutory grounds that justify such unusual remedy which will make so important precedent discrimination negatively against any following merger case which over 50% of market share through the mergers. In other words, even if we agree the MRFTA Article 16(3).8 may be applied, the KFTC’s corrective measure was too discretionary and it can be interpreted as “different people call it different things.” Luckily for it, however, as a first mover, SKT obtained double advantages from the measures.

8. Conclusion

Economies arising from the combining of two firms may lead to greater profitability. However, the above discussion has examined “the possible anticompetitive effects accompanying mergers in the mobile communications market by drawing attention to the case of SKT.”³⁶⁸ Because network effects – which imply that the value of a product increases with the number of consumers who purchase it – “can permit supra-competitive prices to persist for a substantial period of time, they plainly can play a key role in creating monopoly power.”³⁶⁹ “[T]he mobile communications market has double-sided aspects that contain many high innovation market characteristics such as unpredictable speed of technological development while traditional market characteristics as pricing for services remain an important means of competition. Increasing returns to scale are not so much an effect of intellectual property assets as a result of concentrated capital.”³⁷⁰

Articles 7(1) and (3), ... the Fair Trade Commission may order such a company (referring to the company involved in the combination of enterprises for a violation of Article 7(1)1 or 5) or violator to take the corrective measures under the following subparagraphs; 1. Cessation of the practice concerned; 2. Disposition of all or part of the stocks; 3. Resignation of officers; 4. Transfer of business; 5. Cancellation of debt guarantees; 6. Publication of the violation of the Act; 7. Restrictions on business method or business scope to prevent the negative effects of restricted competition pursuant to the combination of enterprises; and 8. Other necessary corrective measures to reprimand such a violation.

³⁶³ See OECD Competition Committee, note 40, at 106.

³⁶⁴ See *id.*; See notes 106-107; See also OECD Competition Committee, note 40, at 103

³⁶⁵ See OECD Competition Committee, note 40, at 106.

³⁶⁶ See *id.*

³⁶⁷ See *id.*

³⁶⁸ See *id.*

³⁶⁹ See G J Werden, “Network Effects and Conditions of Entry: Lessons From the Microsoft Case” (2001) 69 *Antitrust Law Journal*, 87, at 109 [hereinafter Werden II]; See also Baumol & Swanson, note 7, at 666 (“Price discrimination implies that demand curves are negatively sloping, and such demand curves have been interpreted as evidence of market power”).

³⁷⁰ See OECD Competition Committee, note 40, at 106.

Notwithstanding “the possibilities for dynamic competition among rivals through operational as well as technological innovation,”³⁷¹ contrary to all expectations, such competition in the present mobile communications market is extremely restricted by factors such as entry barriers and network effects. The problems are not insurmountable in a short time, as we are moving toward a very different economy from the one we live in, one where things will tend to tip much more towards extremes.³⁷² “Such factors [as will soon become apparent] allow a merger motivated by greed and avarice among mobile communications firms to be used as a powerful tool for further intensifying their market position of an already dominant firm.”³⁷³ Recently, the fact that in the US the FTC has been more active than the DOJ in investigating innovation markets³⁷⁴ is illustrative of this argument.

Viewed in this context, we have a good opportunity to broach the subject of preventing obstacles to competition in the innovative mobile communications market with the merger assessment process as a momentum. Regrettably, however, even if we knew exactly what kind of innovative product outcome would be optimal in a given market, there is no systematic way of determining how many resources or overlapping R&D lines would be needed to achieve that outcome.³⁷⁵ Therefore, “instead of focusing too much on potential dynamic competition of high innovation markets, [which would require expensive and time-consuming data collection], competition authorities should rigorously conduct merger reviews by concentrating on possible restraints on competition.”³⁷⁶ Thus, it would not seem difficult to determine a violation of antitrust law in the case of an acquisition by a company with a significant³⁷⁷ market share³⁷⁸ for the purpose of suppressing a competitive innovation in that same relevant market.³⁷⁹

Meanwhile, methods of assessing mergers with all the trimmings (i.e., traditional market definition and market share calculation formula) continue to be valid in the mobile communications market without dramatically changing the way in which they are applied. This means the “old” antitrust tools are still sufficient to deal with innovation market concerns. However, “we do need to take into consideration the fact that large scale integrations with neighbouring communications service markets [such as broadcasting or ubiquitous internet-based games] are being pursued subsequent to recent technological innovation.”³⁸⁰ It is an economy that is likely to be more volatile, in which the price mechanism will not always stabilise outcomes and equalise market shares.³⁸¹

³⁷¹ *See id.*

³⁷² *See* Summers, note 42, at 356.

³⁷³ *See* OECD Competition Committee, note 40, at 106.

³⁷⁴ *See* Rapp, note 43, at 22.

³⁷⁵ *See* Davis, note 48, at 696.

³⁷⁶ *See* OECD Competition Committee, note 40, at 106.

³⁷⁷ Something over 50%.

³⁷⁸ Here it is used with the meaning of the primary index of monopoly power. *See* Werden II, note 369, at 69.

³⁷⁹ *See* Hoerner, note 6, at 67.

³⁸⁰ *See* OECD Competition Committee, note 40, at 106.

³⁸¹ *See* Summers, note 42, at 356.

Lately “the possibility of substituting cable with mobile markets is ... expanding, and [just as gas lamps became obsolete when electric lighting became possible,] the distinction between different services is becoming [antiquated].”³⁸² Clearly many fixed-line telephones are being replaced by mobile phones due to advances in mobile communications and fixed-line/mobile multi-function telephones, such as those including TV broadcasting which will be commonplace in the market within the near future.³⁸³ Even though innovation is intangible, uncertain, immeasurable, and often even unobservable,³⁸⁴ “there is a need to seek new market-defining methods which reflect these trends.”³⁸⁵

“With the increasing frequency in the number of mergers between firms operating in different areas of communications service, [just as the random-walk hypothesis has come back to the stock market,] it is also necessary to investigate the possible emergence of “portfolio effects”³⁸⁶ when a firm extends its market dominance in an existing communications service market to new markets of related services.”³⁸⁷ Only a few merger cases, however, will require an independent analysis of competitive effects in innovation markets.

³⁸² See OECD Competition Committee, note 40, at 106.

³⁸³ See *id.*

³⁸⁴ See Rapp, note 43, at 27.

³⁸⁵ See OECD Competition Committee, note 40, at 106.

³⁸⁶ See T Verge, “Portfolio Effects and Merger Control: Full-line Forcing as an Entry-Deterrence Strategy” *CMPO Working Paper Series No. 02/046* (accompanying text) (“A number of parties have claimed the “portfolio effect” theory has no economic foundations but this paper showed that the acquisition of a comprehensive portfolio of brands is likely to lead to full-line forcing with a view to deter entry in the long-term”).

³⁸⁷ See OECD Competition Committee, note 40, at 106. (Emphasis added).

<Appendix> U.S. Frequency Spectrum Allocation

Frequency Band name	Abbr	ITU band	Frequency Wavelength	Example uses			
Very low	VLF	4	3–30 <u>kHz</u> 100km–10km	Military communication			
Low	LF	5	30–300 <u>kHz</u> 10km–1km	Navigation, time signals, AM longwave broadcasting			
Medium	MF	6	300–3000 <u>kHz</u> 1km–100m	<u>AM</u> broadcasts			
High	HF	7	3–30 <u>MHz</u> 100m–10m	<u>Shortwave</u> broadcasts and <u>amateur radio</u>			
Very high	VHF	8	30–300 <u>MHz</u> 10m–1m	<u>FM</u> and <u>television</u> broadcasts			
Ultra high	UHF	9	300–3000 <u>MHz</u> 1m–100mm	TV broadcasts, wireless LAN	1710-1850	Government Fixed Mobile Wireless	1710-1755 (Mixed Use since 2004)
					1850-1990	Privately Operate Fixed Microwave	1850-1880 PCS (MTA)
							1880-1890 PCS (BTA)
							1890-1900 Non-approval PCS Voice
							1900-1920 Non-approval PCS Data
							1920-1930 Non-approval PCS Voice
							1930-1960 PCS (MTA)
					1960-1970 PCS (BTA)		
					1990-2110	Cable TV Service	
					2110-2130	Domestic Air Fixed Wireless Service	
					2130-2150	Privately Operate Fixed Microwave	PCS (BTA)
2150-2160	Multi-point Distribution Service						
2160-2180	Domestic Air Fixed Wireless						
2180-2200	Privately Operate Fixed Microwave	PCS (BTA)					
2200-2290	Government Fixed Wireless Service						
2290-2300	Government Fixed Wireless Service						
2300-2310	Government Fixed Wireless Service						
Super high	SHF	10	3–30 <u>GHz</u> 100mm–10mm	<u>Microwave</u> devices, <u>mobile phones</u>			

Note: “Above 300 GHz, the absorption of electromagnetic radiation by Earth’s atmosphere is so great that the atmosphere is effectively opaque to higher frequencies of electromagnetic radiation until the atmosphere becomes transparent again in the so-called infrared and optical window frequency ranges.” “The ELF, SLF, ULF, and VLF bands overlap the AF (audio frequency) spectrum, which is approximately 20–20,000 Hz. However, sounds are transmitted by atmospheric compression and expansion, and not by electromagnetic energy.” See http://en.wikipedia.org/wiki/Radio_frequency; See also <http://www.ntia.doc.gov/osmhome/Chp04Chart.pdf>; See also <http://www.ntia.doc.gov/osmhome/allochrt.pdf>.