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Broadband Miracle

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By Thomas W. Hazlett

In the mid-1990s, Korean policy-makers set out to inject competition into local telephone service. They enacted rules allowing rivals to challenge the erstwhile state monopoly, Korea Telecom. Yet, by mid-2004, KT still accounted for 95% of local phone lines.

A failure? On the contrary, Korea's policy has proved a smashing success. Because, as an additional lure to attract phone entrants, the government ended regulation of advanced telecom applications. The result: While competitors largely avoided (regulated) voice services, they invested billions to create new (unregulated) high-speed Internet networks. The broadband technologies unleashed by telecom rivals forced KT to modernize its network, which now serves just half of the high-speed market.

And that's a big market: 78% of Korean households subscribe to broadband, the highest penetration rate in the world and well over twice that of the U.S. While broadband via standard cable modems and digital subscriber line (DSL) services are available for about \$27 a month, households paying about \$52 a month receive lightning fast 20 mbps VDSL service -- connections sufficient to receive live high-definition TV. In short, the apartment dweller in Korea enjoys the same level of Internet service as the largest corporate customers in the U.S. All this in a country of 48 million which, in 1979, had just 240,000 phone subscribers.

Circle back to the government's original goal: introducing local phone competition. It flopped, at least in the way regulators expected. While minutes of use on KT's phone network declined by a stunning 12% last year, the primary reason is intermodal competition as consumers switch to mobile phones (with 36 million subscribers) and Internet substitutes. Given ubiquitous broadband, voice traffic is migrating to "Voice over Internet protocol" (VOIP) and e-mail.

U.S. policies and outcomes are different. The 1996 Telecommunications Act set about to introduce local rivalry just as the Koreans were making their policy moves. But while the Act struck down state franchise phone monopolies, going to competition cold turkey was considered too harsh. Regulators attempted to ease the transition with ambitious network sharing mandates. These allowed entrants to use the existing phone network facilities at prices set by regulators. (The rules are typically referenced as "unbundling," as they allow new retail service competitors to use various pieces of an incumbent's network.) Determining these complicated terms and conditions has taken more than eight years. And in June, federal rules lapsed after being overturned by the courts, leaving the entire regulatory arrangement in limbo.

Korea avoided this path. KT's new rivals Hanaro and Thrunet (among others) were denied the opportunity to use KT's network to deliver signals the "last mile." They scrambled for efficient alternatives. By using fiber-optic capacity leased from a power company, cable TV lines, and new transmission facilities built from scratch, competing networks emerged and broadband services took off.

Sang-Seung Yi, an economist at Seoul National University, explains that the "Korean broadband market succeeded because of fierce facilities-based competition among Hanaro, Thrunet and KT. This took place not because of 'smart' government regulation such as unbundling, but because of the absence of regulation." Other factors feed the broadband miracle, of course. Koreans live in close proximity to one another, so the cost of building networks tends to be low. The Korean government has subsidized certain applications and invested public monies in broadband and wireless. And the fabled Korean demand for online gaming suggests a hunger for broadband applications.

But these alibis for why others do not do as well are overrated. Most Koreans do not live in apartments, and many parts of the U.S. are much more densely populated than many parts of Korea. Subsidies have been

handed out in Korea, but the major network competitors depend on private capital markets. Thrunet reorganized under bankruptcy laws in 2003, and Hanaro reported its first profits only in mid-2004. The U.S. annually pours multibillion-dollar subsidies into network services, while even larger cross-subsidies are embedded in rates, all without seeming to gain any advantage in network growth. As for appetite, Korean demands were revealed only after Internet cafés -- or "PC baangs" -- dotted the country, luring customers to online games, music, and videos. Networks then built-out; subscribers followed.

One large disadvantage of broadband providers in the U.S. is rarely cited: cheap dial-up. Local phone service in most countries, including Korea, is metered; in the U.S., local residential calls are priced at zero. Even at \$25 a month, unlimited broadband is more expensive in America than most dial-up service (when a voice line is shared), whereas in Korea broadband is faster and less expensive. U.S. regulation of local rates inadvertently tips the scales against broadband.

But it is also crucial that Korea's deregulatory climate has protected investments in new infrastructure, inducing capital to flow freely into broadband. As Prof. Yi explains, "Because Hanaro could not 'free-ride' on KT's investments, they made massive investments in laying out fiber-optic cables. That, in turn, prompted KT to make its own massive investments. And it could realize 100% of its returns, because it had no unbundling requirements." A report issued by Korea's Ministry of Information and Communications likewise claims that the key to the broadband market is "facilities-based competition."

Traction in the broadband market powers virtuous circles. "Korea's VOIP production is by far the most advanced," writes one consultancy of technology solutions for the about-to-explode Internet telephony market. Overall, the Korean government reports that IT now accounts for 13% of GDP, easily above the U.S. level of 8%.

In campaign 2004, Americans have already been treated to the candidates jockeying over the broadband problem. President Bush stated the basic position of both candidates when he declared: "[W]e rank 10th amongst the industrialized world in broadband technology and its availability. That's not good enough for America. Tenth is 10 spots too low as far as I'm concerned." The policies are far more troubling than the rounding error. The lesson offered by the country in first place is that deregulation, cold turkey, may actually work a lot better than the alternative.

Mr. Hazlett, a senior fellow at the Manhattan Institute, formerly served as chief economist of the Federal Communications Commission.

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