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HARD LESSONS: GUIDING AMERICA'S APPROACH TO THIRD GENERATION WIRELESS POLICY

The publicity over license auctions in Europe during 2000 created an atmosphere in which the prices that companies paid for third-generation wireless licenses received more attention than their actual plans to implement the technology. As American policymakers and corporate boardrooms consider the future of this technology here in America, it is vital that we develop a coherent and well-designed allocation process and then quickly move on to meatier problems.

INTRODUCTION

¶ 1 While many U.S. wireless communications companies are still trying to lure customers into the digital age by offering deals like "talk for 300 minutes for only \$30 a month," the real players in the telecommunications industry know that data, not conversation, will create their future profits. The catalyst for this transformation is a mixed bag of new technologies collectively referred to as 3G, or third-generation, wireless. Although many service providers offer wireless web browsing on their digital phones, the high-speed access promised by 3G makes those options seem medieval by comparison. The target transfer rate for 3G is hoped to be around 2 megabits per second (Mbps) under optimal conditions, which is over 150 times faster than current phones.

¶ 2 In order to make those dreams of high-speed wireless a reality, however, companies are going to have to spend billions of dollars on both spectrum licenses and network infrastructure at a time when many of the top wireless providers are already severely strapped for cash.

¶ 3 The aim of this iBrief is to analyze the relative successes and failures of recent third generation wireless policy decisions in Europe. Particular attention will be paid to the case of Poland, as it experienced a nearly complete policy failure and much can be learned from its mistakes. The iBrief will also recommend a course of action that incorporates the resulting lessons and integrates them with a plan that can help focus policy discussion taking place in the United States.

A CHANGING LANDSCAPE

¶ 4 European countries made plans to auction 3G licenses starting in 1999 and equipment makers Nokia and Ericsson were far ahead of any American competitors in developing the hardware needed to access the new services. At that time, the United States had barely begun feasibility studies on switching to the new technology and many of the carriers were busy taking on huge debt loads in order to complete their roll out of 2G digital services.

¶ 5 In the last year and a half, however, the composition of the leaderboard in the 3G race has changed dramatically. In fact, not only has the U.S. gained some ground on its European competitors; the U.S. may end up passing them before they leave the starting blocks. According to a news release from Sprint and Lucent, the first U.S. 3G phone call was recently made in a research lab.¹ While still far from the pockets of most consumers, Sprint does plan to begin limited 3G service by the end of the year, with a more complete rollout to come in 2002. This comes at the same time that many companies in other nations are announcing delays in launching next generation service. Considering the speed with which the technology has been developing recently in the U.S., it is increasingly crucial that the policy questions, which have been largely addressed in Europe, be answered more fully in this country.

divIDING THE EUROPEAN PIE

¶ 6 The European countries that have already assigned their licenses have generally taken one of two approaches to determine which companies would receive them. The first approach is the familiar spectrum auction, with each participant attempting to be the last one standing after the bidding war is over. The second approach, colloquially known as a beauty contest, is to consider the relative merits of the applicant companies, the quality level of service that they promise, and the speed of network rollout to which they commit. Both systems have serious drawbacks when applied to the American scenario, but each is worthy of some consideration.

¶ 7 The auction method produced major headlines in the spring and summer of 2000 when the 3G (or UMTS, as they are also known) licenses were sold in the U.K. and Germany. The U.K. auction, held in April, distributed five licenses and generated, theoretically, \$35.3 billion in revenue for the British government.² Three of the five licenses were sold to foreign-based corporations, with Vodafone and British Telecommunications being the only homegrown winners.

¶ 8 The real fireworks were sparked in August of that year, however, when the German licenses were put on the auction block. Those six licenses were sold for a staggering \$45.8 billion, an amount that sent shockwaves through boardrooms and bourses around the world. The stock of the only domestic company to win a license, Deutsche Telekom, has fallen nearly 50% in value in the United States since the winning bids were announced.³ Other winners in the auction include two British firms (Vodafone and British Telecommunications), France Telecom, and consortiums consisting of a Dutch-Japanese partnership and Spanish-Finnish pairing. The international character of these firms appears particularly instructive in light of America's possible experience with auctions, which are discussed later.

¶ 9 The exuberance displayed in these two auctions, held just a few months apart, was not merely irrational; it was quite destructive. The prices paid by the bidders negatively impacted their bottom lines and created major problems for the nations whose license allocations had not yet taken place. Italy's auction, in October 2000, generated less than one-third the license fees paid in Britain, despite the fact that it has a higher per capita GDP and greater cellular phone usage than the U.K.⁴ The result of Italy's auction was a major disappointment to the government of Italy, which had hoped to net twice as much for its five licenses.⁵

¶ 10 The results of these auctions were so potentially debilitating to the participants that a coalition of European companies and entrepreneurs has been formed to convince the governments in the U.K., Germany, and other places to reverse the results of last year's auctions.⁶ The coalition claims that the debt burden taken on by the winning carriers is so high that actual build-out of the networks will be retarded by years as a result. It remains to be seen whether this notion will gain much support amongst governments or competitors, who argue that the winners will get what they bargained for. The German government has relented, however, in its strict regulations preventing wireless carriers from sharing the costs of network build-outs and is going to allow carriers like BT and Deutsche Telekom to share some of their infrastructure costs.⁷

¶ 11 Several countries in Europe have used the beauty contest format to determine which companies are the most worthy to receive 3G licenses. In a beauty contest scenario, companies are awarded licenses based on their promised ability to quickly roll out networks that are capable of delivering high quality service. Generally, companies that are winning contestants are also obligated to pay a license fee to the national treasury, but these fees are relatively small compared to the sums generated at auction. Spain, for instance, drew criticism from many of its citizens for effectively giving away its spectrum and was forced to charge its license winners an

additional fee.⁸ Sweden charged only a \$10,000 application fee for beauty contest entrants, with no fees required of the winners.⁹

¶ 12 One glaring exception to this trend in low-cost beauty contests is France, which recently experienced an embarrassing lack of interest in the licenses on offer. After demanding a fee of \$4.6 billion, the French government found that only two companies were willing to compete for the four licenses available.¹⁰ The government has announced plans for another round of license allocation later this year, presumably with altered terms to attract more applicants.

¶ 13 Despite the disappointment and lowered expectations seen in Italy, France, and elsewhere, Poland's experience with 3G-license allocation stands out as the most extreme cautionary tale of the European debacle. Poland's problems with the licenses actually began well before its auction was officially announced on October 3, 2000. Although initial interest in the auction was high, changes in auction terms and fears of weak demand in the market kept many bidders out of the contest when the final submission deadline passed.¹¹ As a result, Polish regulators decided to abandon the auction scheme and rely, instead, on a beauty contest with relatively low (\$500 million) license fees. They also dropped their demands for full payment up-front, requesting, instead, that winners pay 50% immediately, with the remainder to be paid over the life of the license.¹²

¶ 14 This announcement was made on the day before the auction was to take place and took many observers, and potential bidders, by surprise. Unfortunately, this sudden change in policy resulted in only three bidders for four licenses (initially, five had been offered for auction). What had initially looked to the Polish government like a chance for windfall revenues (at a time of increasingly high deficits) instead turned into a costly political embarrassment.

¶ 15 Though this experience was painful for Polish regulators and politicians, it is valuable as a learning tool for policy makers in the U.S. and abroad. Undoubtedly the most important lesson that can be taken away from Poland's fiasco is that the process for awarding licenses must be transparent and understandable; for potential applicants, regulators, and the public. It is also vital that the rules of the contest, whether it be an auction or a beauty contest, must be set well in advance of the distribution and must be adhered to as closely as possible. Companies who are contemplating investments of tens or hundreds of millions of dollars on spectrum licenses are likely to be skittish about taking part in a process with overly fluid rules.

¶ 16 A final lesson can be learned from the payment scheme ultimately adopted by Polish regulators. While the half-now, half-later plan is not entirely novel (see Hong Kong's plan, below) it does provide welcome relief to companies that will have to seek additional financing to build their networks in the years to come.

THE HONG KONG SOLUTION, AMERICAN-STYLE

¶ 17 After Europe's frustrating experience with the licensing process, other parts of the world took notice and tried to learn lessons about how best to proceed. Hong Kong's proposed method of dealing with 3G auctions is a model based on those lessons and deserves a closer look. While no system is perfect, Hong Kong's system does provide the flexibility that will likely be needed in the American context.

¶ 18 Hong Kong's system will be a hybrid auction, part beauty contest, part traditional highest bid auction.¹³ In that way, it will help weed out under-funded, overly ambitious companies who might take on more debt than they can handle. Yet, it will also allow the free market to operate, allowing those who value the licenses most to bid as high as their pocketbooks allow. The Hong Kong system also calls for royalty payments based on revenues collected from operation of the network rather than a lump sum payment up-front. This would permit companies to obtain further financing for network build-out, without jeopardizing their credit ratings.

¶ 19 Finally, the Hong Kong system requires winners to open their networks to competition in exchange for access payments, further driving down potential license prices, as the monopolies granted in other countries will be transformed into something more akin to a stewardship. All of these factors should combine to encourage a stable development of 3G networks, with gradual payments made over time that are in keeping with consumer demand for the product. Thus, it will hopefully avoid both the largesse of free spectrum grants and the sheer folly of companies willing to drive themselves into bankruptcy in a quest for the wireless Holy Grail.

¶ 20 Despite the apparent benefits that adoption of the proposed Hong Kong system in the U.S. would bring, there are two major criticisms with the plan, particularly when applied to a market as large and complex as the U.S. The first is the moral hazard that would be created by allowing bidders to pay for their license fees out of their revenues, rather than as up-front cash payments. The second is that government intervention in the market would cause problems. While both of these arguments have some merit, neither is ultimately strong enough to overcome

the reasonableness of the proposed plan.

¶ 21 Of the two, the concern over moral hazard is the more vexing, since it is ultimately unanswerable. The delay between winning licenses at auction and paying for those license fees out of revenues generated by operation of the network could cause carriers to pay more for their licenses than they would if an up-front cash payment was required. The primary deterrent to such overpayment would be the fear of damaging the company's stock price and debt ratings, but those are both relatively short-term consequences. In the long-term, companies are likely to feel that the trade-off weighs in their favor and engage in over-bidding. This would largely defeat the purpose of having the beauty contest in the first place. One possible solution would be to adopt Poland's approach and require a 50% "down payment" soon after the auction. This requirement would create a disincentive to overbid and would provide some immediate revenues from the auction.

¶ 22 Only the most ardent free-marketer would take the second criticism of the Hong Kong plan to its ultimate extreme and demand that government get out of the spectrum allocation business altogether. It is less controversial, however, to question the legitimacy of having a governmental screening process, in the form of a beauty contest, before the auction. At first glance, the beauty contest phase seems to add little to the process; left to their own devices, companies would be willing to pay as much for the licenses as they felt they were worth and the market would sort out the winners and losers.

¶ 23 A closer look at recent auction history in the United States, however, suggests that some involvement, pre-auction, by the FCC would be beneficial. When NextWave Communications filed for bankruptcy after bidding around \$4.7 billion for PCS (2G) licenses in 1996, it created substantial uncertainty as to the status of the licenses that it had won. NextWave had taken on too much debt in bidding for the licenses and was not able to make scheduled payments as required by the FCC. When the licenses were put back up for auction late last year, a final determination of ownership had not yet been made.

¶ 24 The recent decision by the U.S. Court of Appeals for the D.C. Circuit upholding NextWave's rights to the licenses turned last year's auction result on its head and has cast doubt on the short-term viability of the network development plans of many of the nation's top carriers.¹⁴ The prospect of winners in the second auction losing their awards to the bankrupt winner from the first auction should have given FCC commissioners more pause than it apparently did. Had the prospective bidders in the original PCS auction been pre-screened (for

assets, if nothing else), the financial resources of the winning bidders would have been less dubious and the results of the auction would have been more certain. As Poland's experience shows, murky results inhibit participation from important players. If the United States decides to use a tiered auction system, similar to the one used in last year's PCS auction, then government intervention through the beauty contest would be vital.

THE NEXT STEP

¶ 25 It is vital to keep in mind that license allocation is only one part of the process and, ultimately, not the most important part. The opportunity to build an entirely new kind of communications network from scratch gives us the freedom to learn from the mistakes of the past or to relive them. What companies do with their new spectrum allocations, once they have overpaid for them - the way their networks interact and the quality of the content they provide - will really determine whether or not 3G will be a significant factor in the future of telecommunications.

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Footnotes

1. Ben Charny, "3G Wireless Test Success for Sprint, Lucent", *ZDNet News*, April 10, 2001, <http://www.zdnet.com/zdnn/stories/news/0,4586,5080961,00.html>(last visited September 10, 2001).

2. *Wireless Insider*, "European 3G License Score Card", *January 8, 2001, Vol. 19, No. 2.*

3. ADR is listed on the New York Stock Exchange (symbol: DT).

4. Italy has 57 million citizens with a per capita GDP of \$21,400 and a total of 17.7 cellular phone lines. Britain's 59 million subjects have a per capita GDP of \$21,800 and 13 million cell phone lines. Source: CIA World Factbook 2000.

5. *Utility Europe*, "Telecom's Auction Flops Dampen Remaining 3G Races", December 1, 2000, page 4.

6. *Telephony*, "Reversal of Spectrum Fortunes", *April 02, 2001.*

7. *CNN Europe/Business*, "Germany Offers 3G Relief", June 5, 2001,
<http://europe.cnn.com/2001/BUSINESS/06/05/german/> (last visited September 10, 2001).
8. Neil McCartney, "Survey - FT Telecoms", *Financial Times (London)*, November 15, 2000,
Page 11.
9. 3G Scorecard, supra note 3.
10. *The Economist*, "Only Fakirs Need Apply", February 3, 2001.
11. *Euromedia.net*, "Poland -UMTS Licenses: Polkomtel 'In', Hutchison 'Out'",
<http://www.europemedia.net/showfeature.asp?ArticleID=633>. (last visited September 10, 2001).
12. Susan Chaffin, "What a Difference a Year Makes", *Prague Business Journal*, March 26,
2001.
13. *The Lawyer*, April 16, 2001.
14. See *NextWave Personal Communications v. FCC*, Docket No. 00-1402, rel. 6/22/01 (D.C.
Cir.).