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Competition for Wireless Services
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1. **What market structure will promote investment, innovation, and efficient pricing?**

Implicit in this question is the belief that promoting investment, innovation and efficient pricing is the proper goal for the Commission in this proceeding. This, of course, is exactly right. Before discussing the market structure that will allow these goals to be accomplished, I want to make a more fundamental point: Investment and innovation are already being held back because spectrum allocations are being delayed. There can be no pricing, efficient or otherwise, until new wireless services are in the market.

Jeffrey Rohlfs and Chuck Jackson recently put together a study of the cost of delay in the licensing of cellular licenses. They found that the delay in licensing cellular cost the U.S. economy 86 billion dollars. It is, of course, possible to debate their methodology and data and arrive at a different number. However, the fundamental point is sound. The economic welfare loss associated with delaying the introduction of services can be quite large.

I am concerned that the Commission is focused on the intricacies of optimal auction design instead of the goal of introducing the service with the most effective possible post-auction market structure. The benefits of a perfect auction mechanism can easily be outweighed by the costs to consumers of delaying the availability of service.

Now to the question at hand. The point of departure is to identify relevant markets, and there may be several. Let me posit three -- the local exchange telephone market, the existing cellular radio market, and entirely new wireless markets meeting demands not being satisfied by either of these existing services. If the Commission is focusing on investment, innovation and efficient pricing in some yet to be defined personal communications market, it may get one answer to the question of how many licenses should be granted. But the optimal number of licensees for a "walk around" telephone service might not be the optimal number of licensees needed to bring added competition for traditional telephone local loop services or for existing cellular mobile services. A fractured PCS service -- that is one containing many firms each with a relatively small amount of spectrum may not pose the greatest challenge to entrenched local telephone and cellular carriers.

Pure technical cost drivers may not be a factor in optimal firm size for a wireless licensee. It appears that given clear spectrum firms could be technically efficient, i.e., realize scale and scope economies, at relatively small levels of output. Efficient firm size, however, involves more than just technical economies. If the firm is to be a credible competitor in existing loop and wireless markets it may require significant scope in terms of

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both geography and spectrum allocation. Cellular carriers advertise service over broad geographic areas. In order to compete with the typical loads offered over landline telephone facilities, more spectrum is required than if service is only being offered for mobile applications.

2. How can the Commission Promote such a market structure?

Given a limited amount of spectrum to work with, the number of licenses and the relative size of spectrum blocks are obviously interrelated. Several factors suggest that PCS licensees will need spectrum allocations comparable to those of the existing cellular carriers to be effective competitors. PCS spectrum will not be clear, at least initially. The Commission's current proposal of 30 MHz allocations for broadband cellular seems to be a minimum to allow comparability with the 25 MHz allocation of clear spectrum that existing cellular carriers have.

Nationwide licenses have desirable properties in terms of allowing efficient standard setting and providing a basis for PCS to compete effectively with the cellular consortiums that are being formed. I am told, however, that this option is not politically feasible. The second-best solution is to license territories large enough to reduce the costs of aggregating territories through consortiums or acquisitions. Geographically splintered licenses will make aggregation difficult.

3. Are there specific types of market participants who might deserve special treatment?

As discussed above, the Commission's efficiency goals will be met with a market structure that promotes investment, innovation and efficient pricing. This means that both the number and type of firms in the market are important variables. Cellular carriers are already providing service, and especially given the delays in licensing, could invest and innovate in providing wireless services. They may have to change their pricing policies to be effective competitors in new wireless applications, but that is what competition is all about. Cellular carriers should not be allowed to acquire PCS spectrum within their own territories.

Local exchange carriers present a more difficult problem. I believe they should clearly be allowed access to spectrum to provide wireless loops. Of course, the original cellular set-aside provides many local exchange carriers with just that ability. Smaller LECs may not have adequate access to spectrum for wireless applications and should therefore be allowed to bid.

Finally, the Commission must be concerned with the nationwide structure of the cellular market. I believe that a PCS industry dominated by the same firms that dominate the existing cellular industry would be less effective in terms of innovation than a PCS industry composed of firms that bring diverse investment and technology strategies to the markets in which PCS providers will compete.

4. How do other factors affect competition?

As discussed above the timing of entry issue is critical simply because delay hurts consumers by denying them choices. Some are concerned that delay may have a permanent effect on the structure of the market because the entrenched cellular carriers will have an unbeatable head-start in investing in new digital technologies. Whether there is a narrow window of opportunity for new entrants is a valid question, but it is one that does not need to be answered if the Commission moves as quickly as possible to put competing services into the market.

Standard setting can be a critical competitive issue. One advantage of a market structure that allows rapid aggregation of licenses is that nationwide licenses or consortiums obviously have the ability to agree on initial standards and standard changes more rapidly than a splintered industry. In any event, the Commission must be careful to ensure that the incumbent firms do not allow the standard setting process to be used to stifle investment and innovation.