

Valuation, Financing, and Creating New Markets

Research Director: Nalin Kulatilaka

Key Researchers: Nalin Kulatilaka, William Samuelson, Dan Furman, Graduate students

Academic Partners: Boston University

Industry Partners: Lucent Technologies, To be identified: Investment Banker, Market maker (Enron?)

Abstract:

This project will involve three related strands of research addressing the following questions:

1. What is the value of a next generation network? (at different stages: Spectrum rights, 2.5G, etc.).
2. How should the network be built out and be financed?
3. Can the creation of a de facto market for network capacity be used to trade spectrum rights?

First, we depart from convention and view spectrum licenses as compound growth options (rather than providing guaranteed revenue streams). Such a valuation framework recognizes not only the risks, but also, the opportunities offered by the tremendous uncertainty facing these markets. We address questions regarding the design (timing, scale, and scope of the network build out, the services and applications offered, etc.), the valuation of the networks, and the appropriate methods of acquiring (build, buy, partner) the various follow-on investments. Second, we examine financing schemes where comparative advantage to manage risk and capture benefits is taken into account. Since the value of the network can be captured not only by the network operators but also by many new players, financing must be coupled with revenue and risk sharing methods. Third, we focus on the network's ability to create market-making opportunities. In particular, we will examine the role of an MVNO in creating micro-markets for network services. This in effect, will be a market to trade in bandwidth at a much more granular level.