

Abstract

This paper formulates a multiproduct structural model to examine the evolution of the structure of production and demand and the dynamic interaction between the two in the context of the U.S. telecommunications industry over an extended period, from 1935 to 1987. We estimate the degree of scale economies, cost elasticities, input price elasticities and the determinants of output demand. The contribution of the quasi-fixed inputs, such as R&D and physical capital, in the evolution of this industry are examined. Using our analytical framework and a long sample period, we examine a number of important issues such as the stability of the cost and demand structure over time, the changing characteristics of demand for local and toll services and the variation of price-cost margin over time under different economic conditions, market structures and regulatory environments. Use of this approach makes it possible to analyze the effects of the 1984 divestiture of the Bell System on the cost structure, employment and capital formation of the telecommunications industry in U.S.

Keywords: Productivity, Telecommunications, Rates of Return

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