

**Spectrum Auctions and Competition
in Telecommunications
Introduction**

by Gerhard Illing

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Herausgeber: Prof. Dr. Gerhard Illing

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ifo Institut für Wirtschaftsforschung

Poschingerstr. 5, 81679 München

Tel. +49-89-9224-0 www.ifo.de

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Spectrum Auctions and Competition in Telecommunications

Introduction

By Gerhard Illing

During the last decades, the telecommunication sector has been characterized by an amazing scale of innovation and by substantial institutional and regulatory reforms. Stimulation of competition has driven down prices for telecommunication worldwide. The spectacular success and failure of spectrum auctions in various European countries attracted enormous attention for game theory and economics in general, also among the general public. Recent developments demonstrate impressively the crucial impact economic theory might have on the outcome.

In spite of impressive scientific advancements, many questions remain open. How should regulation respond to the rapid technological progress in order to strengthen further competition in telecommunication? How should property rights for spectrum waves be allocated to achieve that goal? These questions were the focus of a CESifo conference organized last November. The papers presented at the conference are published in this issue of *ifo Studien*.

The first three papers discuss alternative ways to strengthen competition in telecommunication, both from a regulatory and from an Industrial Organisation perspective. The remaining papers analyse the design and outcome of spectrum auctions in different European countries. A number of crucial questions are addressed: What is the optimal, efficient design of a spectrum auction? Should it focus on raising government revenue or on stimulating competition? Was the auction design in some countries fatally flawed? Is game theoretic analysis not very useful in predicting the outcome of these auctions, simply because participants do not pursue rational bidding behaviour? The diverse auction design used in various countries provides ample empirical evidence. The set of papers published in this issue uses this evidence to answer these and further questions. A key lesson is stated in Eric van Damme's paper: "Auction design is an art in itself of which the difficulty should not be underestimated."