

Spectrum Auctions - The Next Phase

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Summary

- Introduction
- Experience to date
 - United States
 - Australia
 - United Kingdom
 - European Auctions
- Design Comparisons
- Bidders
- Conclusions

Introduction

- Reactions to auctions
 - Difficult birth in the early 90's
 - Dubbed a success in the late 90's with auctions in the US, Australia and the UK
 - Dammed by some - blamed for world recession in the post **.com** era!
 - Acceptance with reluctance by some
- Auctions - now the accepted orthodoxy
 - When? - when demand exceeds supply
 - Advantages? - effective, transparent and source of revenue
- Auction design critical!
 - Wide market variation in approach
 - Role of technology standards?

United States

- Impetus for change
 - Dissatisfaction with administrative methods
 - Comparative hearings (“beauty contests”)
 - Lotteries
 - Promise of improvement from applying economic theory!
- Policy objectives - 1993
 - Deployment of technological innovation
 - Promotion of economic opportunity and competition
 - Recovery of value on a public asset
 - Efficient and intensive use of spectrum
 - Allowing ‘adequate’ time for bidders (1997)

United States (continued)

■ Initial auctions

- Extensive consultations with auction theory consultants
- Results?
 - bidders were satisfied with the process
 - Revenue raised was above expectations

■ Distinctive features

- Multiple standards allowed (7)
- Specific service areas
- Roll-out requirement & “use- it or lose it” clause
- Resale prohibited

■ Retrospect?

- Collusive behaviour observed
- Favours “big players”
- Problem of spectrum incumbents

Australia

- Innovative pioneer in auction design!
- Features
 - Spectrum “blocks” which can be amalgamated into a licence
 - Technology neutral but ‘attuned’ to global standards
 - Competition safeguards (eg restrictions on Telstra)
 - No roll-out or “use-it or lose-it” clauses
 - *Tradable licences!* (eg recent Austar/Unwired deal)
- Retrospect
 - Spectrum incumbents
 - Role of vendors! (eg One.Tel)

United Kingdom

- First “3G” auctions in 2000
- Government objectives (similar to the US)
 - Assignment efficiency
 - Promote competition
 - Realization of full economic value
 - Potential revenue was a consideration
- Outcome a spectacular success!(?)
 - Raised US\$34 billion for 5 licences (2.5% of GDP)
 - Introduced competition through the auction design (eg one licence exclusive to new entrants)

European Auctions

- Very mixed results
 - “failure of auction design” (eg Italy, Netherlands)
 - Change in “market sentiment”
 - The French non auction
- *Criticisms* of auctions post **.com** bizarre
 - Damaged ‘value’ of European telcos? (and world economy)
 - Reduced network investment in 3G?
 - Incumbents plea for Government relief?
 - Had to win to protect their current business
 - Could realise greater value than new entrants

Remember Christine Keeler!

Design Comparisons

- Spectrum allocation process?
 - US: Deemed “command-and-control” (paradox?)
 - Europe: Restrictive technology options in Europe (eg ETSI and 3G)
 - Australia: Market oriented assuming ‘global technology’
- Auction design issues
 - Flexibility of use (ie accommodating multiple use)
 - Roll out and ‘use’ measures
 - Compensation for prior incumbents
 - Competitive safe guards
 - Source of information to bidders

Bidders

- Onus on the bidders to determine value
 - Incumbents and new players
- Value to the bidder depends on:
 - Availability of equipment for the particular bands
 - Likely cost and timing of infrastructure equipment
 - Likely cost and timing of terminals
 - Role of vendors?
 - Financing of bidders
 - Availability of equipment (in practice) - depends on scale!
 - Technical standards
 - Europe and US - defined
 - Accommodate multiple standards

Conclusions

- Auction design has evolved to orthodoxy!
 - Several phases
 - Early focus on effective allocation and introducing competition
 - Matching to specific market conditions critical
 - Revenue raising phase
 - Next phase of opening up more spectrum (eg AWS spectrum in the US just completed - US\$13.9billion)
 - Buying out incumbents
- Technology standards & availability poorly understood
- Comparative observations on Australia
 - Spectrum auctions are 'market oriented'
 - Flexible and tradable licenses a key feature
 - Standards assumed *to date* are focused on Europe and USA

Future technology standards and China?