

# The Pros and Cons of Market-Based Allocation

Peter Cramton

*Professor of Economics, University of Maryland  
Chairman, Market Design Inc.*

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# Outline

- Why markets?
- Why not?
- Examples of success and failure
- Lessons

# Why markets?

- Efficiency
  - Short run: resources to best use
  - Long run: correct incentives for investment
- Markets are robust
- Markets are responsive
- Markets are simple

# Why not?

- Markets may fail
  - Absence of supply/demand response
  - Externalities
  - Market power

# Examples of Success and Failure

# Pollution emissions

- US acid rain program
  - National auction of SO<sub>2</sub>
  - 98% grandfathering of pollution rights
  - Poor auction design
  - Yet highly successful in efficient reductions
- Clear skies act
  - Good auction design for multiple pollutants
    - Simultaneous clock auction

# Wireless telecom

- FCC spectrum auctions
  - Failure of administrative allocation and lotteries
  - Simultaneous ascending auction
    - Price discovery
    - Efficient substitution and packaging
  - Started with a nearly-clean slate
  - Next generation
    - Handle package bids
    - Handle encumbered spectrum

# Electricity

- Bid-based wholesale energy market
  - Spot markets for energy (day-ahead and real-time)
    - Supply and demand balanced in real time
    - Location and time critical
    - Many products: energy, reserves, regulation
  - Supporting longer term markets
    - Energy, reserves, capacity
- Overall highly successful
- California
  - Fatal flaw: force buyers to purchase in spot market

# Lessons

# Auctions work!

# Slot auctions are needed

- Enormous cost savings and passenger benefits from effective use of market-based allocation at LGA, ORD, ...

# Critical elements for success

- Find the biggest problems
- Focus on efficiency
- Recognize incentives
- Do good market design
  - Product definition (property rights, timing, ...)
  - Prices must be seen and felt
  - Price discovery
  - Appropriate use of information
  - Proxy agents, package bidding, ...

# Evan's keys for success

- Need cooperative effort with government, industry, and experts
- Begin with a small scale
- Refine mechanism as you gain experience

# Addressing market power

- Essential to allow entry
- Market monitoring/mitigation
- Product definition
  - Use or lose
  - Term

# Distribution trumps efficiency

- Focus should be on efficiency, but care should be taken to protect “rights” implicit in status quo
- If not win-win, nothing will happen

# Getting it done: What's in it for me?

- Nothing happens in Washington if important constituency is not screaming for it
  - FCC auctions began as revenue to reduce deficit
  - FAA auctions could be used to fund critical equipment, service, and security upgrades



## FAA mantra

*Make markets work better!*