Assigning Property Rights in the Common Pool:
Implications of the Prevalence of First-Possession Rules

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Overview

- Summarize a move toward rights-based approaches to the common pool across a variety of settings.
- Advantages of clear property rights, controversies, problems of public trust or public interest regulation
- Allocation rules
- Oil and Gas, Water Rights, Radio Spectrum, Air pollution Emission Permits, ITQs
- Dominance of first possession or “grandfathering,” auctions are rare
- Efficiency benefits and hence restrictions should be adopted with caution
Increased adoption of rights-based instruments to address the losses of the common pool

- Fisheries (individual transferable quotas)
- Water (surface water rights, instream flow permits)
- Land use control (tradable development permits)
- Air pollution (tradable emissions permits)

Dissatisfaction with command and control regulation

- Inflexibility
- Ineffectiveness
- No basis for trade
- Industry capture
- Not in all cases
Advantage of rights instruments and market allocation

- Information generated from trade
- Smoother allocation to higher valued uses
- Incentives to invest and conserve the stock
- Flexibility
- Effectiveness
- Basis for trade, to “contract”

Controversial

- Costly
  - Measurement, bounding, enforcement
- Allocation
  - Assignment of wealth and political influence
Allocation

- First possession
  - “First in time, first in right,” “grandfathering”
  - Reward first claimants, first movers, innovators, incumbents, experience, investment in specific assets, direct stake in the resource
  - Market determines optimal size, reduces transaction costs of subsequent trades
  - Criticisms: fairness, windfalls, wasteful race

- Uniform allocation
  - Equal sharing and/or equal access opportunities
  - Lotteries
  - Used when no incumbents, homogeneous parties
  - Requires re-allocation
Auctions
- Allocation to highest valued users
- No windfalls
- Used when no incumbents and high value
- Resisted by incumbents
- Reduce incentive to invest in the stock
- As with all property rights arrangements, there are design costs

Property rights are costly
- Appear late in resource use
- Usually when common pool losses are great and existing arrangements unsatisfactory
Survey of Allocation of Property Rights in Five Resources

- **Oil and gas reservoirs**
  - First possession—rule of capture, past production and investment in regulatory prorationing of output and unitization shares
  - Prorationing rules reward influential parties—preferential quotas and exemptions, “small producers, community”
  - Preferences weaken the rights, but still bring improvement over common pool

- **Surface water rights**
  - First possession—prior appropriation
  - Beneficial use, diversion
  - Quantification and clarity to increase trade, conserve instream flows
  - Interdependent uses
  - Public trust interventions weaken property rights
- **Radio spectrum**
  - First possession—early broadcast licenses
  - Administrative allocation with restrictions on entry to protect incumbents
  - Regulation limits trade, content, property rights
  - Limited lottery and auction late to new spectrum—high value, no incumbents
  - Inefficient—costly, retards innovation and allocation

- **Air pollution emission permits**
  - First possession—past fuel use investment
  - Limited auction
  - SO$_2$ controls under the 1990 Clean Air Act Amendments
  - RECLAIM program in LA Basin
  - Improvement—flexible, cost effective
ITQs

- First possession—grandfather quotas based on past catch and vessel investment
- Limited use of auctions
- Australia, Canada, Chile, Iceland, New Zealand, US
- Differences in the security of the right
  - Stronger in Australia and New Zealand
  - Weaker in the US
  - Concern about windfalls, equity, local development, other input sellers (processors, labor, boat and equipment suppliers)
- Some restrictions on transferability, set asides of quotas
<table>
<thead>
<tr>
<th></th>
<th>full, legal property right</th>
<th>late</th>
<th>first possession</th>
<th>incumbents</th>
<th>no restrictions on trade; small producer preferences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summary Table</strong></td>
<td></td>
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<tr>
<td><strong>Oil and Gas Unit Shares</strong></td>
<td>use rights, explicitly not a property right</td>
<td>late</td>
<td>first possession</td>
<td>incumbents</td>
<td>trades affecting time, nature, and location regulated; public trust</td>
</tr>
<tr>
<td><strong>Water Rights</strong></td>
<td>administrative early, lottery, auction late</td>
<td>administrative lottery and auction</td>
<td>first possession</td>
<td>incumbents limited auction</td>
<td>preferences to certain states; restrictions on banking in RECLAIM</td>
</tr>
<tr>
<td><strong>Air Emission Permits</strong></td>
<td>use rights, explicitly not a property right</td>
<td>late</td>
<td>first possession</td>
<td>incumbents</td>
<td>some quota trade restrictions</td>
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<tr>
<td><strong>Radio Spectrum</strong></td>
<td>use rights, not property</td>
<td>late</td>
<td>first possession</td>
<td>incumbents</td>
<td>some quota trade restrictions</td>
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<tr>
<td><strong>Australia ITQ</strong></td>
<td>use rights, legal property right</td>
<td>late</td>
<td>first possession</td>
<td>incumbents</td>
<td>some quota trade restrictions</td>
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<td><strong>Canada ITQ</strong></td>
<td>use rights, fairly strong property right</td>
<td>late</td>
<td>first possession</td>
<td>incumbents</td>
<td>some quota trade restrictions</td>
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<tr>
<td><strong>Chile ITQ</strong></td>
<td>use rights</td>
<td>new, late</td>
<td>auction, first possession</td>
<td>high value, incumbents</td>
<td>some quota trade restrictions</td>
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<tr>
<td><strong>Iceland</strong></td>
<td>use rights</td>
<td>late</td>
<td>first possession</td>
<td>incumbents</td>
<td>some quota trade restrictions</td>
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<tr>
<td><strong>New Zealand</strong></td>
<td>use rights, legal property right</td>
<td>late</td>
<td>first possession</td>
<td>incumbents</td>
<td>some quota trade allocation restrictions</td>
</tr>
<tr>
<td><strong>U.S.</strong></td>
<td>use rights, uncertain</td>
<td>late</td>
<td>first possession</td>
<td>incumbents</td>
<td>some quota trade and allocation restrictions</td>
</tr>
</tbody>
</table>
Conclusion

- Trend toward adoption of rights instruments in addressing the losses of the commons
- Use right and not a right to the stock
- First possession is the dominant allocation rule
- Empirical regularity suggests that it is more efficient than has been recognized
- If so, then restrictions should be weighed carefully
- Stronger the right, the better the instrument is able to reduce the losses of the commons