Price Cap/Alt-Reg: from Telecom to Electric Utilities

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Price Cap Regulation

1. The Mechanics of Price Cap Regulation
2. Historic Emergence of Price Caps
3. Use of Price Caps in Canada, UK and US
4. Potential and Perils of Price Cap Regulation
Growth \( (PCI) = P - X \pm Z \)

PCI: Price Cap Index
P: Inflation factor
X: Productivity Factor
Z: External Factors
Purpose of Price Caps

• Solve incentive problems with cost-of-service regulation
• Efficiency and innovation incentives for utility
• Increase returns
• Avoid uncertainty and frequency of rate cases
• Solve regulatory lag, information asymmetry problems
How to think about price caps

- Conceptualize as a long-term, fixed price contract
- Can cap overall prices or revenue.
- Terms of cap plan present menu of choices for utility to account for different goals/circumstances.
- Customize for generation, transmission and distribution (multi-part cap)
DEALING WITH COST UNCERTAINTIES UNDER PRICE CAP PLAN

- Cost adjustment mechanisms (e.g., GCA) can continue under price cap plan
- *Ad hoc* treatment of large capital investment projects (e.g., large generation and transmission facilities)
- Public policy measures (e.g., RPS and DSM) can continue as set-asides or be subsumed within cap plan
The Telecom Move to Price Caps

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate of Return Regulation</th>
<th>Earnings Sharing Regulation</th>
<th>Rate Case Moratoria</th>
<th>Price Cap Regulation</th>
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</thead>
<tbody>
<tr>
<td>1985</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1987</td>
<td>36</td>
<td>3</td>
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<tr>
<td>1990</td>
<td>23</td>
<td>14</td>
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<td>1993</td>
<td>17</td>
<td>22</td>
<td>5</td>
<td>3</td>
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<tr>
<td>1995</td>
<td>18</td>
<td>17</td>
<td>3</td>
<td>9</td>
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<tr>
<td>1998</td>
<td>13</td>
<td>2</td>
<td>3</td>
<td>30</td>
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<td>2000</td>
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<td>1</td>
<td>39</td>
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<td>2003</td>
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<td>0</td>
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<tr>
<td>2007</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>33</td>
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Source: Price Cap Regulation: What Have We Learned from 25 Years Experience In the Telecommunications Industry, Sappington and Weisman (UF PURC 2010)
Lessons from Telecom

• Efficiency gains were real driven by silicon economics/Moore’s Law
• States systematically underestimated productivity factors
• Telcos increased returns and boosted productivity
• Weak quality of service regulation marred success
A Real Price Cap Plan -- Enmax

\[ P_t = P_{t-1} \times (1 + (I-X)) - E - S + F \]

Where:

- \( P_t \) = Current year’s customer rate for each customer class
- \( P_{t-1} \) = Prior year’s customer rate for each customer class
- \( I \) = Inflation factor
- \( X \) = Productivity factor
- \( E \) = Customer portion of earnings sharing
- \( S \) = Service quality penalties, if any
- \( F \) = Flow through and uncontrollable costs

ENMAX OFF-RAMPS AND RE-OPENERS

- Off-Ramps: (1) substantial or unforeseen circumstances, (2) change in regulatory status, (3) change in EPC control, (4) misrepresentation by EPC.

- Re-Openers: (a) failure to meet a specific performance standard for two consecutive years, (b) material changes in GAAP with an impact greater than $5 million, (3) expansion of the service territory by more than 10,000 customers, (c) actual ROE is 300 basis points ± target for two consecutive years, or (d) actual ROE is 500 basis points ± target for consecutive years.
<table>
<thead>
<tr>
<th>Promise and Peril</th>
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<tbody>
<tr>
<td><strong>Increase Returns</strong></td>
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<tr>
<td><strong>Increase incentives for efficiency and DSM measures</strong></td>
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<tr>
<td><strong>Reduce regulatory burden/cases</strong></td>
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<td><strong>Political economy positive: indifference to build/buy, supply/demand-side resources</strong></td>
</tr>
</tbody>
</table>
Select Bibliography


Sappington, David and Weisman, Dennis, *Price Cap Regulation: What Have We Learned from Twenty-Five Years of Experience in the Telecommunications Industry?*, September 2010.
