Can Regulation Encourage or Accommodate Innovation and New Technology?

Stanford L. Levin

Emeritus Professor of Economics

Southern Illinois University Edwardsville

slevin@siue.edu

CAMPUT 2017, Vancouver, May 7-10, 2017

- Where does innovation and new technology come from?
- Generally, innovation and new technology comes from suppliers, not the industry
- Look to other utilities
    - Telecommunications, for example
        - Including computers, fiber optics, chips, switches

Look to other industries

- Oil and gas, for example
  - Bloomberg: technology including robots, algorithms, big data, analytics, mobile apps
  - GE: digitization of the oil fields could reduce primary preventive maintenance cost by 20% and boost daily production by 2.5%

- What can regulators do?
  - Do not throw money at the companies – it won't work
  - Do provide incentives for companies to innovate and adopt new technology
    - Under cost-of-service regulation, incentive is to boost the rate base by buying expensive equipment
    - Most effective incentive to adopting innovations will be a price or revenue cap (PBR), the purer the better
    - Companies will innovate and adopt new technology if they can keep the benefits

- There may be one exception to this
- What if there is a new technology that improves service but increases cost?
  - Pure price or revenue cap (PBR) will not accommodate that
  - Some adjustment or increment to the price or revenue cap will be required
    - If, and this is important, the project passes a strict benefit/cost test and subject to prudent expenditures
    - Do this with the least damage to the incentive properties of the price or revenue cap