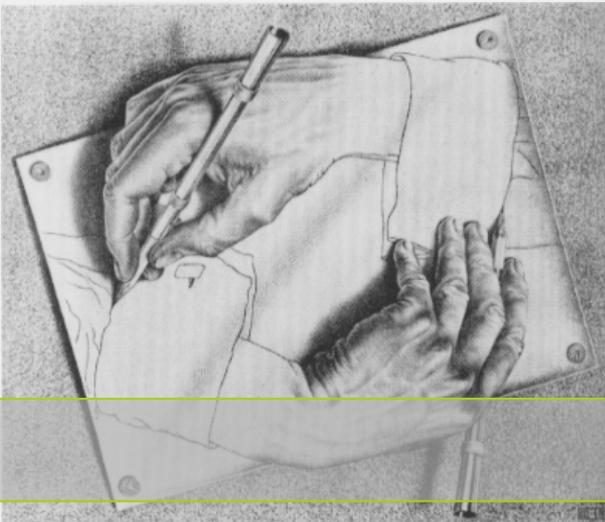


# Theoretical Underpinnings of the Regulatory Compact

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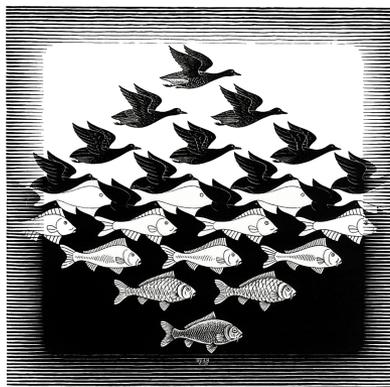
# The Institute of Public Utilities at MSU

- IPU-MSU has served the regulatory policy community since 1965
  - ▶ More than 20,000 domestic and international program alumni
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  - ▶ To support informed, effective, and efficient regulation of the electricity, natural gas, telecommunications, and water industries
- Neutral and integrative educational programs and research
  - ▶ A principled approach to regulatory practice
  - ▶ An empirical approach to regulatory analysis
  - ▶ A reasoned approach to structural and regulatory change
- We teach the “ideal” of economic regulation in the public interest
  - ▶ Balancing act theory of regulation (“the middle”) but without “fairness bias”
  - ▶ Regulatory culture and how to think (critically) like a regulator
  - ▶ Commitment to lifelong learning and appreciating what we don't know



# Thesis

- The operating paradigm for economic regulation for most of modern history centers on the construct of a social or regulatory “compact” (or “contract”)
- The compact’s origins can be traced from ancient philosophy, to British common law, and American regulatory jurisprudence
- The compact provides a clear framework for allocating risks between utility investors and utility ratepayers
- The compact is undermined by adaptive regulatory methods that shift risk without commensurate adjustment to authorized returns
- If and when the requisite conditions of the compact no longer apply, neither does the regulatory compact itself
- Regarding the existential threat to utilities, we need to ask the right questions



# Ancient origins of the social compact

- In ancient times, economic transactions were guided only by the “natural price” agreed to by willing buyers and sellers – a market test
- Aristotle (384-322 BC)
  - ▶ “The true forms of government... govern with a view to the common interest; but governments which rule with a view to the private interest... are perversions.”
  - ▶ The just exchange ratio of goods (just price) should be in proportion to "intrinsic worth.”
  - ▶ Aristotle condemned the idea of using monopoly power to gain wealth: “It is an art often practiced by cities when they are want of money; they make a monopoly of provisions.”



# Common law heritage

- The *public character* of enterprise is as important as the problem of *monopoly*
  - ▶ “Common callings” (inns & taverns) and later “common carriers” (public transportation)
- Regulation under common law was articulated in the treatises of Lord Chief Justice Sir Matthew Hale (c. 1670)
  - ▶ De Portibus Maris: When private property is “affected with a public interest, it ceases to be *juris privati* only.”
  - ▶ De Jure Maris: The king has “a right of franchise or privilege... and every ferry ought to be under a public regulation, viz., that it give attendance at due times, keep a boat in due order, and take but reasonable toll; for if he fail in these, he is finable.”
- Foundation for regulatory jurisprudence in the UK and the US



# Expansion of the public-interest doctrine

- “When, therefore, one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the common good...” (*Munn v. Illinois*, 1877).
- “His company is the substitute for the state in the performance of the public service, thus becoming a public servant” (Justice Brandeis concurring in *Southwestern Bell v. Mo. PSC*, 1923).
- “[T]he true principle is that the state's power extends to every regulation of any business reasonably required and appropriate for the public protection...” (Justice Brandeis dissenting in *New York State Ice Co.* (1932)
- ...”a State is free to adopt whatever economic policy may reasonably be deemed to promote public welfare... Some services “so nearly touch the vital economic interests of society that” no additional “clothing with a public interest is needed to justify the regulation. And this is evidently true of all business units supplying transportation, light, heat, power and water...” (*Nebbia v. New York*, 1934).
- “[P]rice must be used to reconcile the private property right society has permitted to vest in an important natural resource with the claims of society upon it...” (*FPC v. Hope Natural Gas*, 1944).

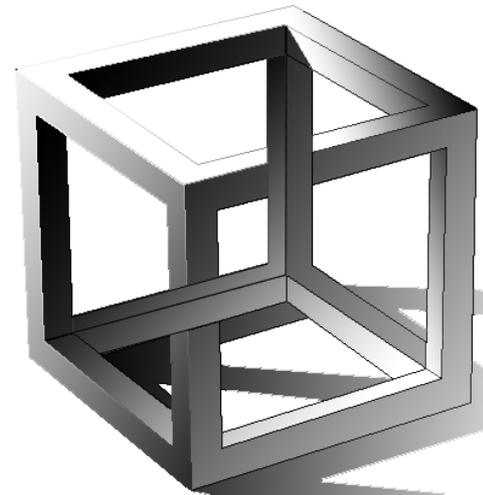
## Preservation of private-sector risk

- Regulation involves the “fair interpretation of a bargain” that finds a “midway” between too little and too much profit (*Cedar Rapids, 1912*).
- Regulation does not ensure that businesses will produce “net revenues” or recover losses (*FPC v. Nat. Gas Pipeline, 1942*).
- Due process does not insure or protect utilities from losses due to business risk associated with “economic forces” (*Market St. Railway, 1945*).
- A contract rate may be evaluated relative to the public interest but is not “unjust’ or ‘unreasonable’ simply because it is unprofitable” (*FPC v. Sierra Pacific, 1956*).
- Utility monopolies are “relatively immune to the usual market risks,” so risk is largely defined by rate methodologies and these should not arbitrarily shift risks to and from investors (*Duquesne Light v. Barasch, 1989*).

For a review with links to key court cases, see *Primer on Core Case Law* at [ipu.msu.edu/research](http://ipu.msu.edu/research)

# Public utilities are *defined* in terms of the compact

- Our conceptions of market failure, public utilities, and economic regulation are intrinsically related
- “If a business is affected with a public interest, and bears an intimate connection with the processes of transportation and distribution, and is under an obligation to afford its facilities to the public generally, upon demand, at fair and nondiscriminatory rates, and enjoys, in a large measure an independence and freedom from business competition brought about either (a) by its acquisition of a monopolistic status, or (b) by the granting of a franchise or certificate from the State placing it in this position, it is... a public utility” (*Judge Vinson, Dissenting Opinion in Davies Warehouse v. Brown, 1943*)



# What “good” are utilities?

## Public institutions:

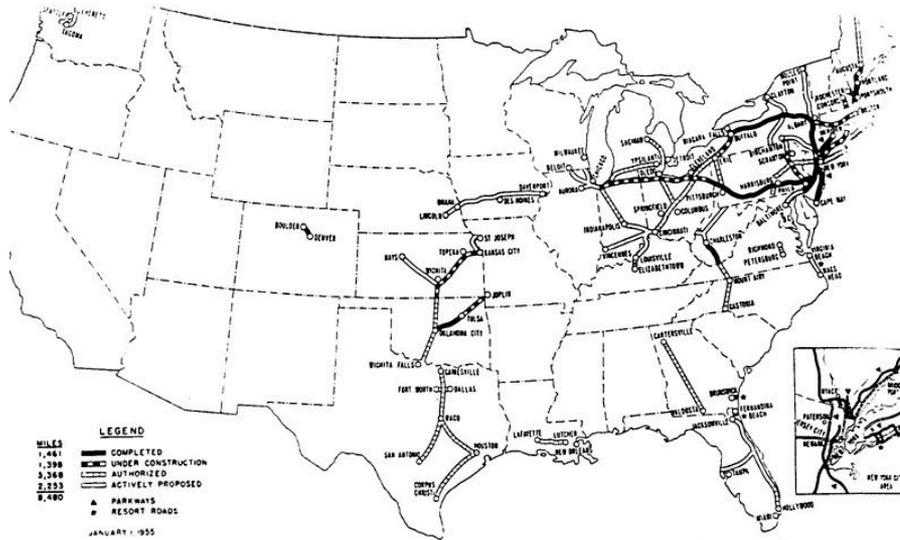
Collective interests; limited discretion; human rights; access; positive externalities

		Feasibility of allocation [exclusivity; divisibility; priceability]	
		Lower	Higher
Marginal impact [depreciability; exhaustibility; rivalry]	Lower	<b>Public goods</b> or collective, merit, or worthy goods <i>(difficult to divide and price)</i>	<b>Toll or club goods, infrastructure, network services, public utilities</b>
	Higher	<b>Common-property</b> or common-pool goods or resources	<b>Private goods</b> for individual consumption <i>(easy to divide and price)</i>

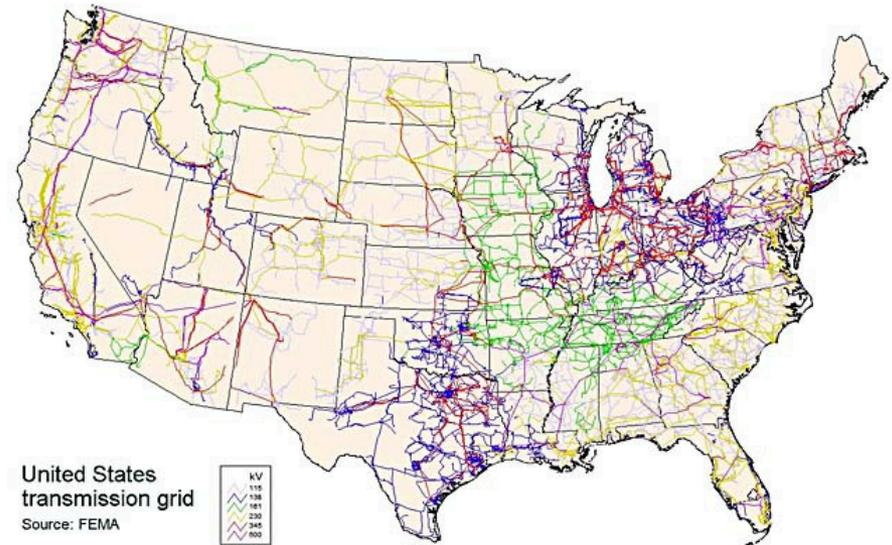
## Market institutions:

Individual interests; consumer discretion; property rights; congestion; negative externalities

# Toll goods, networks, and common carriage



Toll roads in operation, under construction, authorized or proposed are indicated on map above



# Regulation as historical political compromise



National Civic Federation (1907):

*“Public utilities are so constituted that it is impossible for them to be regulated by competition... None of us is in favor of leaving them to their own will, and the question is whether it is better to regulate or to operate.”*

# The regulatory paradigm: requisite & sufficient conditions

Market failure is manifested by “*natural*” *monopoly* of essential services:

*Legal*: private property rights & compensation

*Economic*: capital scale, intensity, & longevity

*Social*: network integrity & controls



Economic regulation serves *the public interest*

Common carriage doctrine

Principled social compact

Independent governance



Regulation provides a functional *substitutes for competition*

Standards for performance

Mechanisms of accountability

Risk & reward incentives

# Utility rights and obligations under the regulatory compact

## Rights: The utility enjoys

- A conditional exclusive franchise for a certificated service territory, protection from direct competition and antitrust, rights of eminent domain, recovery of prudently incurred costs, an opportunity to earn a fair return on useful investment, and the ability to charge for the cost of service.

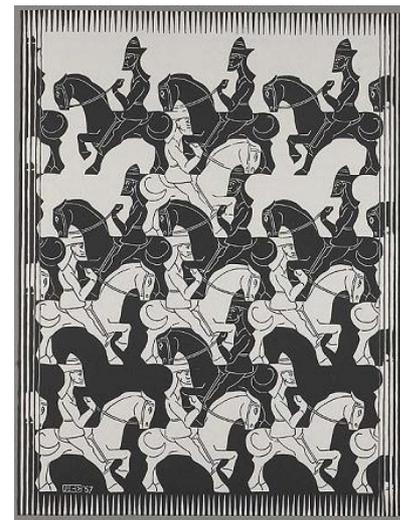
## Obligations: The utility accepts

- An obligation to provide all paying customers with access to safe, adequate, reliable, convenient, and nondiscriminatory service on just and reasonable terms, while assuming certain business and market risks and subjecting itself to regulatory review and oversight.

# Conditioning the compact: utilities as servants of the state

- Potential conditions imposed under the compact

- ▶ Universal service
- ▶ Energy portfolios
- ▶ Energy efficiency
- ▶ Consumer education
- ▶ Operational standards
- ▶ Public and worker safety
- ▶ Service reliability
- ▶ Service quality
- ▶ Capacity utilization
- ▶ Economic development

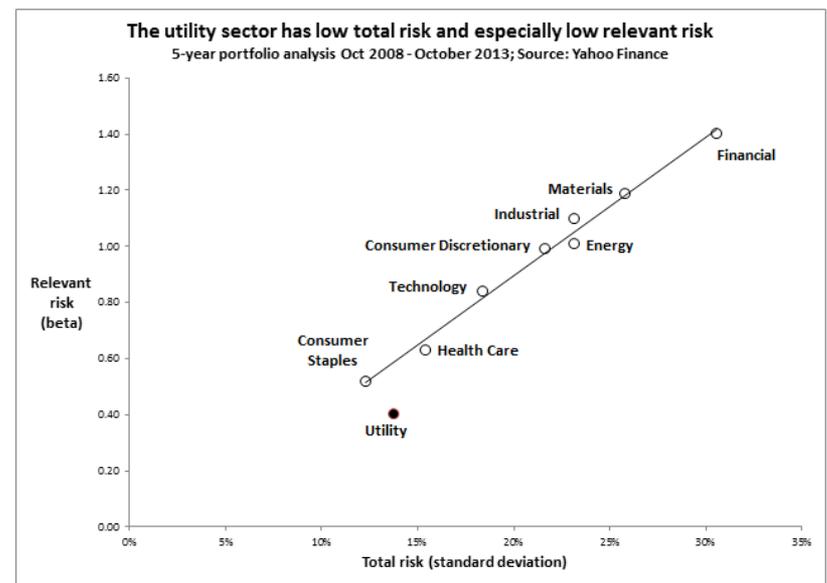


- Regulation under the compact provides a path to profit *but not without risk*

- ▶ The compact offers utilities “a reasonable opportunity to earn a fair return”
- ▶ Shielding utilities from risk through preapproval, excessive adjustments, or guaranteed returns violates the compact and is suggestive of public ownership
- ▶ Modern utilities may need to adopt a “new prudence” based on evolving performance goals and standards

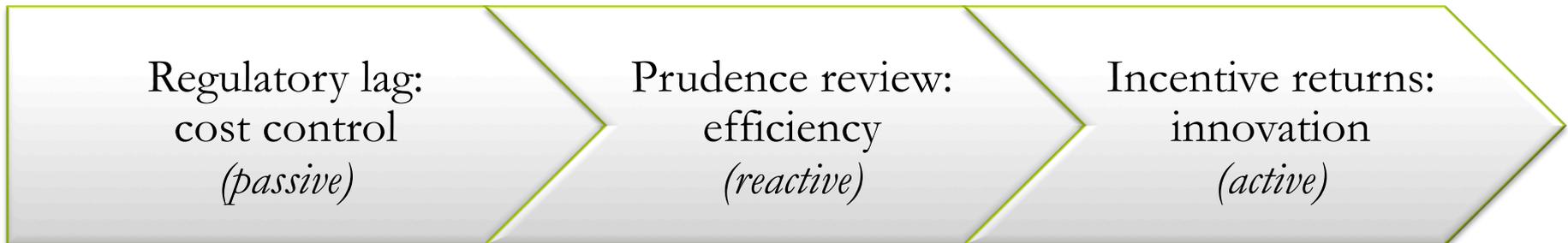
# Risk rhetoric and the compact

- Utility investors enter the regulatory compact voluntarily – they have choices
- Regulated utilities present a unique risk profile in the political economy
- U.S. utility culture appears to be very risk sensitive if not risk averse
- Risk management involves avoiding, mitigating, or (often) *shifting* risks
- Utilities without risk are not *servants* but *arms* of the state (public ownership)
- Regulators should be “risk aware” *as much to maintain as to mitigate risk*



# Three risk-based regulatory incentive tools

- Though much maligned, regulatory lag is part of the paradigm *by design*
  - ▶ Blunt but purposive in maintaining short-term upside and downside risk (like competition)
  - ▶ Regulatory lag should not be blamed for “utility lag” (i.e., failure to forecast or file)
  - ▶ Price-cap regulation formalizes lag by extending the term
- Prudent performance is expected and earns a fair but not excessive return to motivate efficiency but also beneficial investment
  - ▶ “[T]he practical purpose of income is to serve as a guide for prudent conduct” (“Hicksian income,” John Hicks, 1948)
- Incentive returns can be used strategically and sparingly to motivate innovation
  - ▶ Utilities do not enjoy the fruits of efficiency or innovation for very long because regulators “claw back the rewards” – *but neither do competitive firms*



# Risk and return hierarchy

	↑	Excessive or extortive return (inefficient)
<i>Regulatory consideration of policy and incentives</i>	↑	Incentive return (performance bonus)
	↑	Fair return based on comparable earnings (return premium over the cost of capital)
	↑	Compensatory return (cost of capital) based on comparable risk (risk premium)
<i>Regulatory consideration of cost and risk</i>	↑	Risk-free return (no risk premium)
	↑	Confiscatory return (taking)

# Challenges to the regulatory compact

- “With the failure in the 1970s of the old “social contract” between utilities and the public, stakeholders are now working toward a new consensus. PURPA, IRP, and the “DSM revolution” have contributed novel approaches toward developing a new social contract and a refashioned electric utility industry,” (R. Hirsch, 1992).
- “If we change the regulatory paradigm — move to decoupling and formula rates... we can invest beyond the meter... Regulations need to change to allow utilities to make more profit without selling more electricity... It’s giving regulated utilities the correct incentives so utilities can make money being stewards of a clean and efficient power network,” (J. Rogers, 2010)
- “For over a century, the electric utility industry has powered the American dream, creating the world’s largest grid and the power to supply our digital economy. Looking forward, however, the industry is beset by the forces of change... These opportunities will force a retooling of the century-old business model and ‘regulatory compact’ that supports the current industry,” (P. Fox-Penner, 2010).

# Death of the compact?

- Jim Chen, “The Death of the Regulatory Compact,” (2006)
  - ▶ “No simplistic ‘compact’ could capture the complexity at stake or provide the flexibility that contemporary regulators need. Proper regulatory design... ‘preserves that flexibility of adaptation’ so essential ‘to the life and growth of our great and changing commerce.’
  - ▶ “Only by stressing the future over the past can we ‘find in motion what was lost in space.’ Let us bid farewell to the regulatory compact, faithful but fatally flawed servant of the law. A world dedicated to efficient markets, political freedom, and technological innovation has no place for retrospective regulation.”



# Adaptive regulation *weakens* the compact

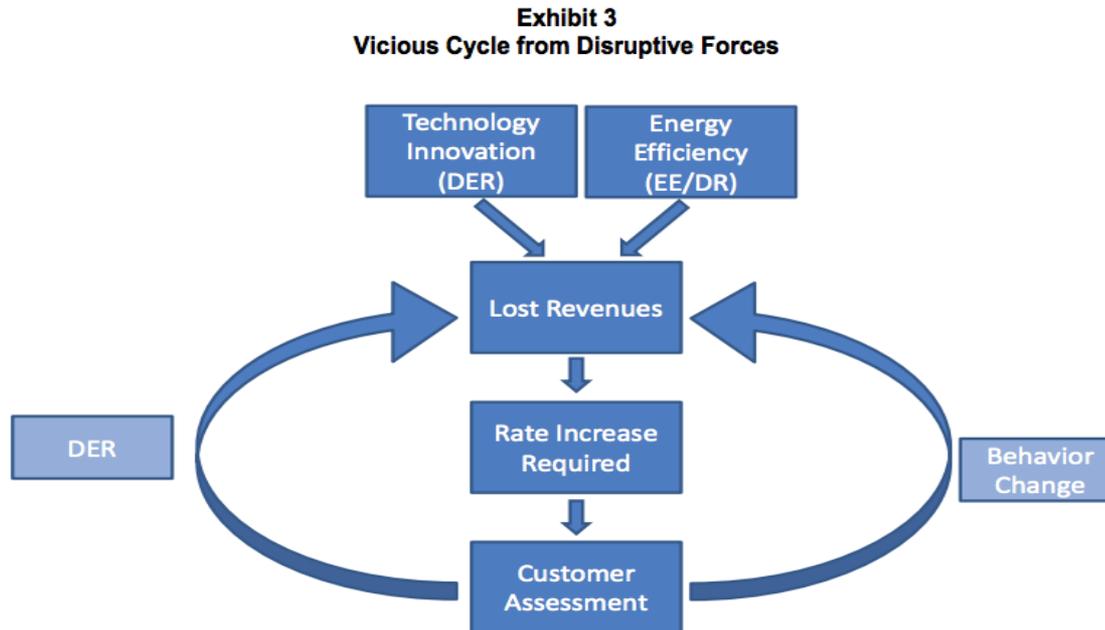
- Adaptive regulation is primarily a normative (prescriptive) model
  - ▶ “Good” if consistent with the prevailing paradigm
  - ▶ “Bad” if simply reactive, uncritical, or acquiescent
  - ▶ Can facilitate the diffusion of both good and not-so-good ideas
  - ▶ New methods may come at the expense of traditional methods
  - ▶ May be shaped by politically powerful (often producers over consumers)
- Excessive adaptation erodes the regulatory compact, undermines due process, and nullifies long-held principles and standards, including risk allocation
  - ▶ Serial adaptation (institutional or functional) with numerous isolated and layered mechanisms (e.g., cost and revenue “adjustments,” a.k.a, the “Santa Clauses”)
  - ▶ Viewed as “constructive” by rating agencies to remedy “regulatory lag”
  - ▶ Reflects “incremental” model policymaking, which tends to lack clear goals and direction: *“[We] do stagger through history a like drunk putting one disjointed incremental foot after another”* (K. Boulding, 1964)
- Paradoxically, adaptation may invite capriciousness, relativism, discontinuity, instability, and uncertainty (which markets dislike)
- It is revisionist theory to imply that regulation has not been responsive or adaptive

# Revisiting the compact

- The compact has drawn fire from academics and practitioners
  - ▶ Has the time come to revisit the regulatory compact?
  - ▶ What are we willing to sacrifice the compact for a “new paradigm”?
  - ▶ Are calls for reform driven by the public interest or by special interests?
- The original compact was premised on concerns about
  - ▶ Market failure, infrastructure investment needs, technological uncertainty, rising costs, social goals, distributional equity, risk allocation...
- Today is *completely different* as we face concerns about
  - ▶ Market failure, infrastructure investment needs, technological uncertainty, rising costs, social goals, distributional equity, risk allocation...
- The paradigm remains well proven *for now*
  - ▶ Established and tested principles still matter (prudence, just and reasonable, due process)
  - ▶ The compact should not be *weakened* but with altered conditions it might be *dissolved*

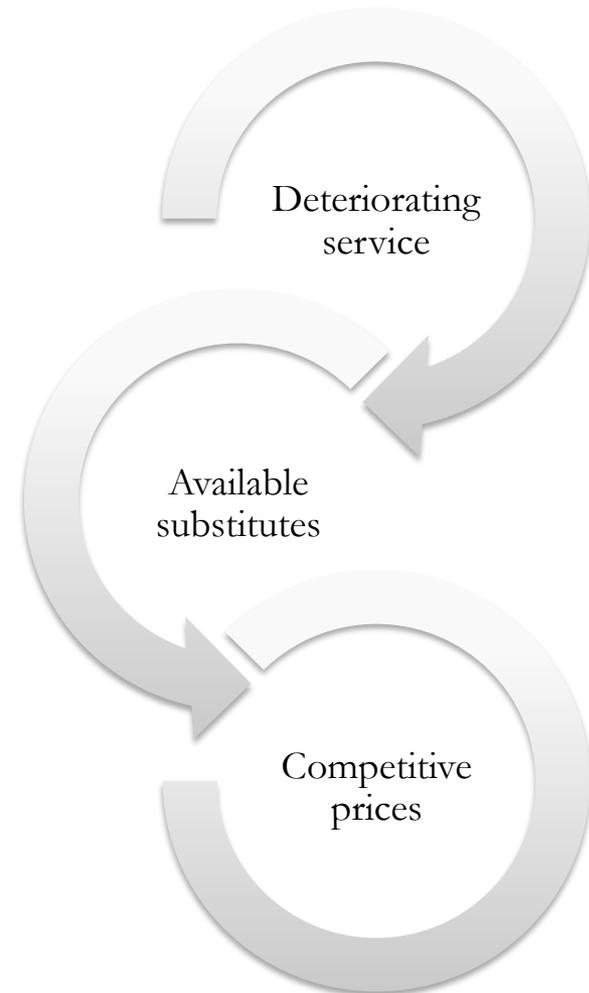
# Are utilities facing an existential threat?

- Perceived threats to modern utilities
  - ▶ End-use efficiency requires cost recovery over fewer sales units
  - ▶ Self-supply (e.g., solar panels) also affect utility revenues
- True disruption of the utility model requires not just technological change but price elasticity and reasonable substitutes
- As long as utility networks serve social purposes, costs must be covered



# Anatomy of a death spiral

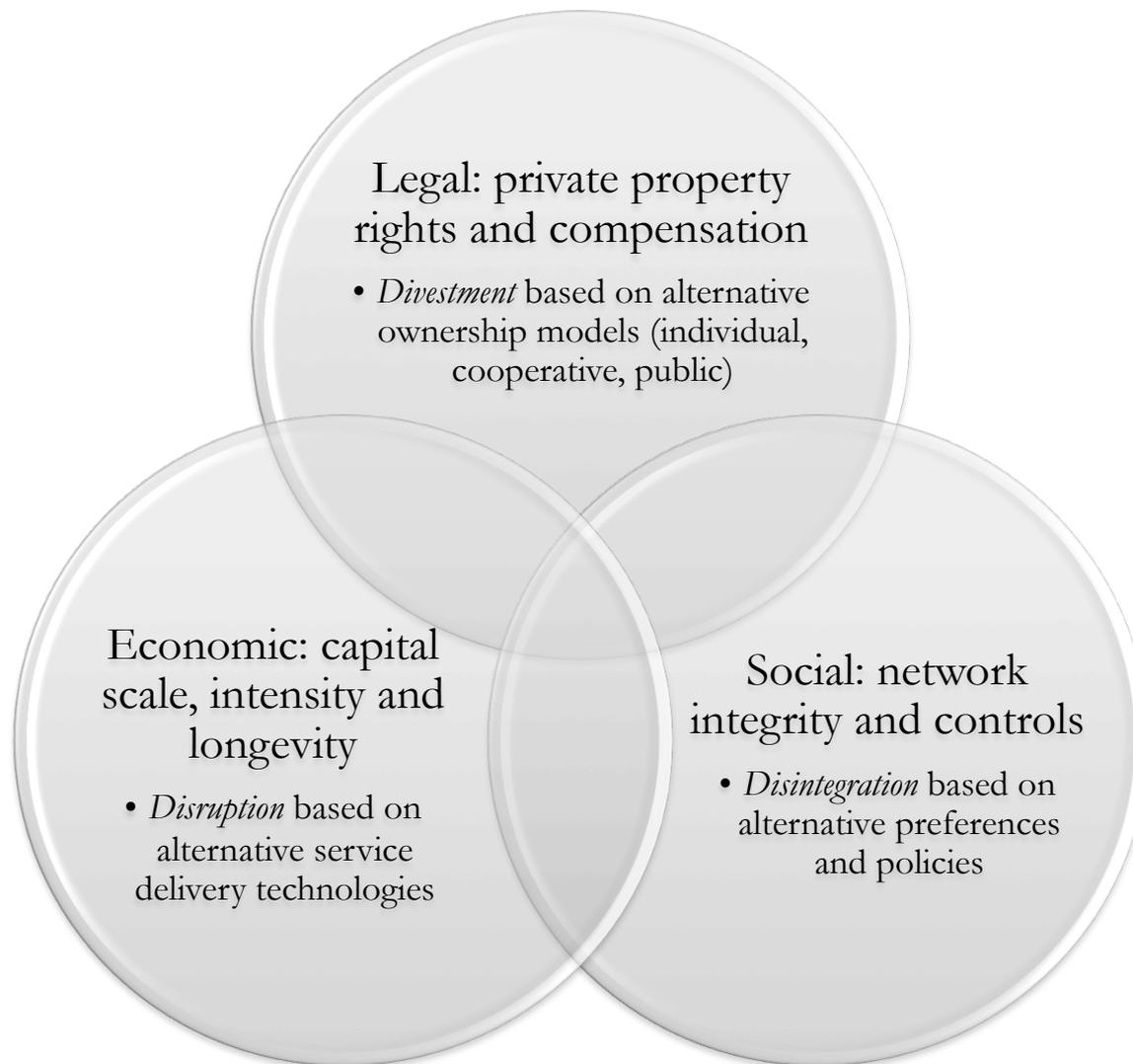
- The regulatory compact provides for
  - ▶ Provides for return *of* investment
  - ▶ Provides for return *on* investment
  - ▶ Does not provide for *the investment itself*
- *Market St. Railway (1945)*
  - ▶ No regulated price could cover costs and sustain operations because consumers would not pay it
    - Deteriorating service
    - Available substitutes
    - Competitive prices



## *Market St. Railway (1945)*

- "Transportation history of San Francisco follows a pattern not unfamiliar. This property has passed through cycles of competition, consolidation, and monopoly, and new forms of competition; it has seen days of prosperity, decline, and salvage. In the 1850's, an omnibus service began to operate in San Francisco. In the 1860's came the horse car. The 1870's saw the beginning of the cable car... The Market Street Railway Company was incorporated in 1893... In 1902, United Railroads of San Francisco was organized...
- In 1912, the City and County of San Francisco began operation of a municipal street railway line... It expanded rapidly... and its competition has been serious. Throughout the period of competition, the municipal lines have operated on a five-cent fare...
- [For the Market Street line, a] seven-cent fare became effective January 1, 1939. But the increase of fare brought no increase of revenue. Both traffic and revenue continued to decline, and, in 1941, reached the lowest point in twenty years. Then came war... Traffic and revenues showed a sudden increase.
- The Commission found, however, that the service had constantly deteriorated, and was worse under the seven-cent fare than under the former five-cent rate... Reviewing the financial results of fare increases, the Commission concluded that the Company would reap no lasting benefit from rates in excess of five cents, due to the tendency of a higher rate to discourage patronage."

# Dissolving the compact: when *one or more* of the requisite conditions no longer apply



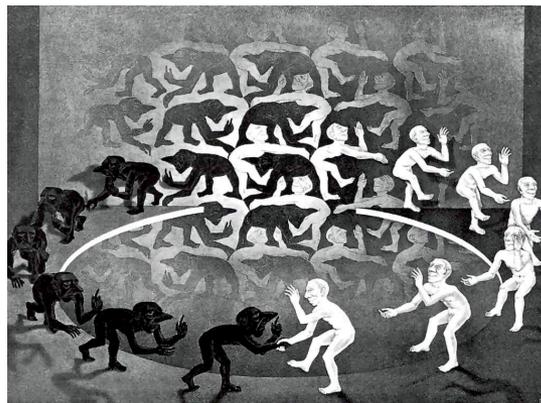
# Disintegration

- Not vertical separation, service unbundling, or de-integration
  - ▶ Loss of scope economies
  - ▶ Addition of transaction costs
  - ▶ Effects on coordination and planning
- To *disintegrate*
  - ▶ 1. to break or be broken into fragments or constituent parts; shatter
  - ▶ 2. to lose or cause to lose cohesion or unity
  - ▶ 3. to lose judgment or control; deteriorate



# Asking the right questions about the existential threat

- What are the relevant social dimensions of networks (i.e., collective interests)?
- Do networks connect things or do they connect people (communities)?
- Can networks facilitate universal service and democratic equality?
- What are the positive social externalities of networks (e.g., public health & safety)?
- How would the demise of networks affect total social cost and cost socialization?
- What are the distributional implications of networks for haves and have nots?
- Are we prepared for the varied risks and consequences of unregulated markets?



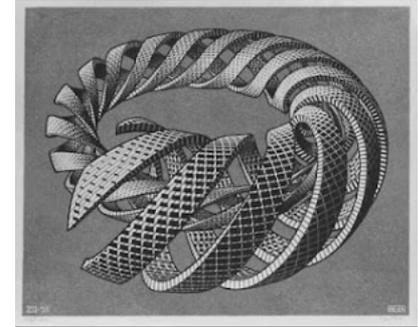
# Just because you can? Lessons from water

- Water has properties electricity wishes it had
  - ▶ Abundant (though transient)
  - ▶ Renewable
  - ▶ Storable
  - ▶ Manageable (demand)
- Off the water grid
  - ▶ Wells
  - ▶ Septic systems
  - ▶ Home treatment
- On the grid
  - ▶ Public health and welfare
  - ▶ Fire suppression
  - ▶ Sanitation services
  - ▶ Environmental protection
  - ▶ Shared economies of networks



# In defense of the regulatory compact

- Historically and today, the regulatory compact
  - ▶ Recognizes the essential nature of utility services and benefits of networks
  - ▶ Provides for capital-intensive investment, scale economies, service extension
  - ▶ Provides powerful performance incentives through both risks and rewards
  - ▶ Ensures attention to achieving goals efficiently and equitably
  - ▶ Conditions the terms of service for the enfranchised monopoly
- Today's “new” context
  - ▶ Sustainability will replace the growth paradigm for utilities
  - ▶ Utilities will be forced to pursue new business models
  - ▶ Competitive enterprises should not be “monopolized”
  - ▶ Roles and methods can be adaptive and still consistent with the compact
  - ▶ New forms of market failure and power may call for reinforcing the compact
  - ▶ The regulatory paradigm applies as long as requisite conditions apply
  - ▶ Loss of the regulatory compact does not mean the loss of other policy institutions, including other forms of regulation (antitrust, standards, commands and controls)



# Thank you!



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