POLITICAL ECONOMY OF REGULATION

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Outline

- What are utilities?
- Why regulate utilities?
- Regulatory hazards
  - Governmental and Third Party Opportunism
- Vertical integration into public bureaus

What are utilities?

- Three key features of utilities
  - Large sunk investments
  - Massive consumption
  - Politically sensitive pricing
- Examples
  - Why steel industry is not a “utility”
  - Why food industry is not a “utility” (even in poor countries)
  - Why oil production is not a utility
    - Is oil pipelines a utility

Why Regulate Utilities?

- What does “natural monopoly” mean
  - Economies of scale
- Why regulate a “natural monopoly”?
  - What are the sources of inefficiencies associated with monopoly
  - What are the distributional implications?
- Does the existence of a natural monopoly prevent entry?
  - Contestability

Contestable Markets

- Baumol, Panzar and Willig
  - Sunk costs as a barrier to entry
  - What about long term contracting?

Demsetz

- When regulate a monopolist?
- How regulate a monopolist?
  - Pricing
  - Quality/maintenance
  - Renewal

Implicit Assumptions in Demsetz framework

- Assets depreciate rapidly (1 yr)
  - No need for new investment
  - No relevant sunk investments
- Single product service
- No unexpected cost shocks
- Costless bidding

Implicit assumptions II

- Pricing
  - How to organize the bid if the service is multiproduct
    - Whiskey vs. sodas in concession stands
    - Local vs long distance telecom service
    - Industrial vs. residential electricity
      - Dangers of setting bids only on a single dimension
- Maintenance
  - How to assure the franchisee maintains the operation if it expects to lose the next bid?
    - Penalties?
    - Supervision?
    - Contract length?

Implicit assumptions III

- If contract is not one year, but long, how to adjust prices to unexpected shocks
  - Inflation?
  - Costs?
    - How to overcome informational advantages?
      - Supervision/control/audit?
- Re-auction
  - What do we do with investments undertaken by current operator?
    - How do we (or not) transfer of assets to new franchisee?
      - Extend length of franchise?
      - Approve investments?
  - Are informational advantages relevant at bidding time?
    - Is bidding costless?

What are Utilities' Risks if

- Assets depreciate very slowly
  - And are largely specific
- Investment and maintenance are required over life of contract
- Service is complex and multiproduct
- Quality is difficult to measure
- Cannot avoid shocks
- Bidding is costly

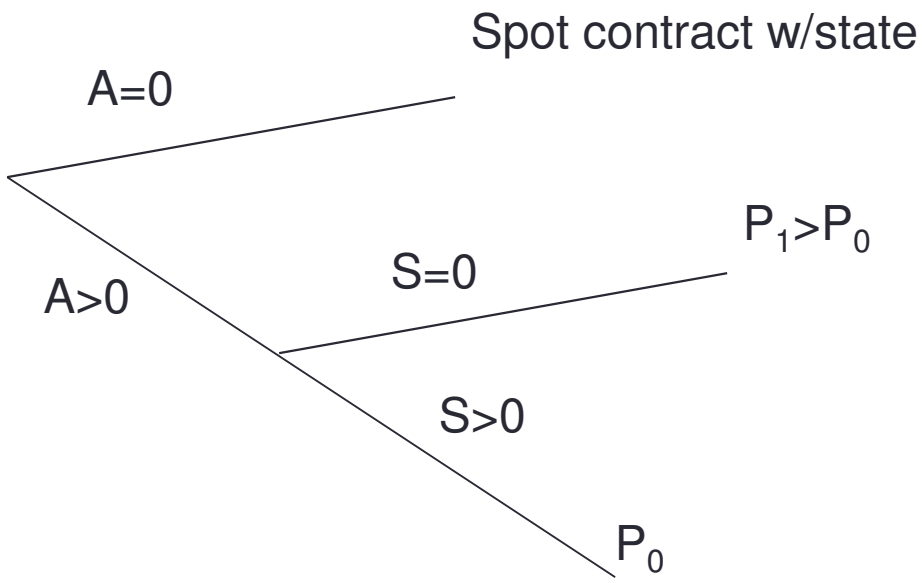
Governmental Opportunism

- Changes in the rules of the game
  - Changes in interpretation
  - Subtle, does not imply taking over assets but just of quasi-rents
  - Working of administrative process

Governmental Opportunism and Utility Regulation

- Why is governmental opportunism a risk for utilities?
- Is governmental opportunism politically “profitable?”
- How can governmental opportunism be limited?

Governmental Opportunism



A: degree of specificity
S: Governmental safeguards against opportunism

Implications of Governmental Opportunism

- Added safeguards over and beyond normal contract with private sector
  - More contract specificity than among private agents
  - More judicial independence
  - More procedural safeguards
  - Higher price / shorter return

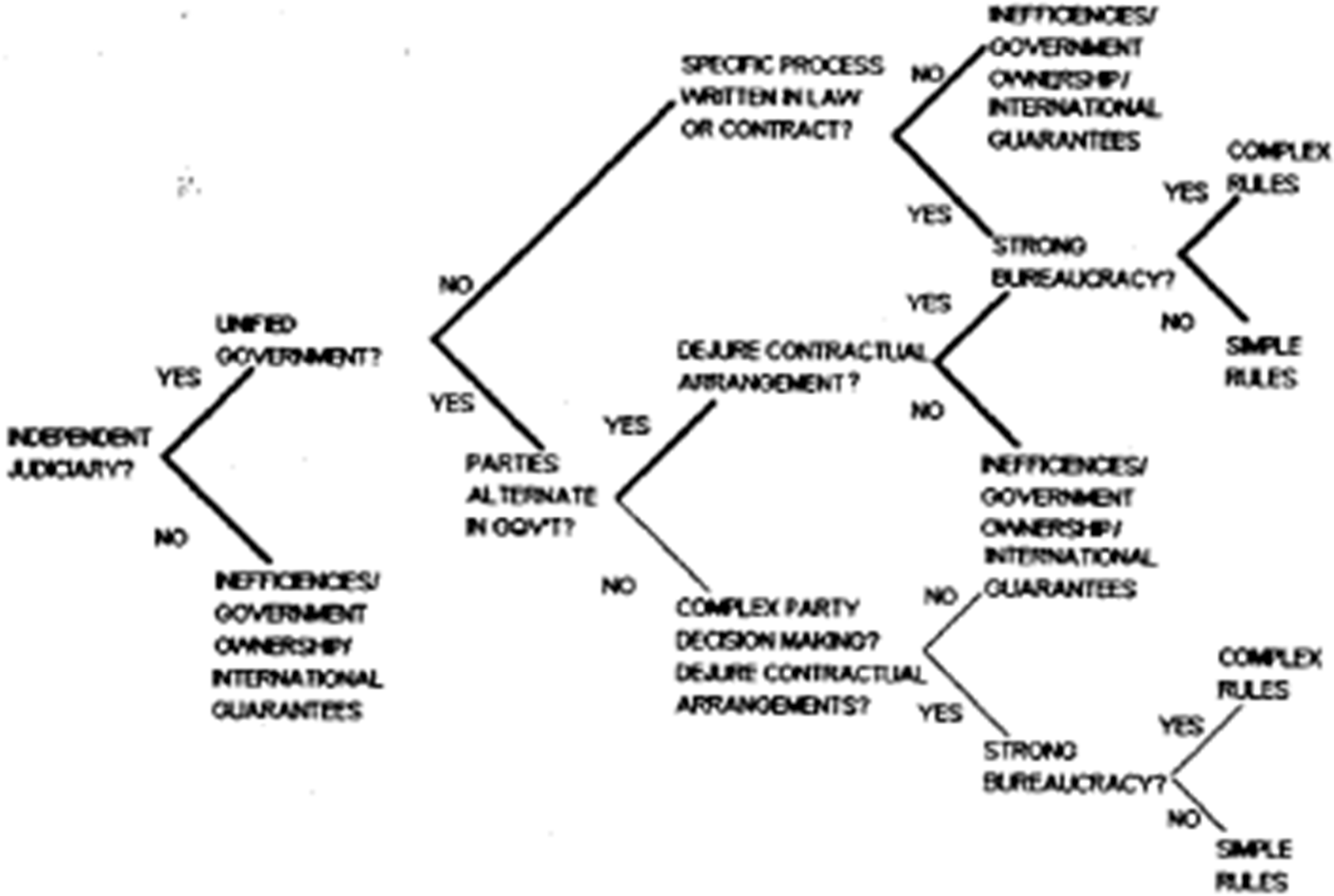
Regulatory Process

- Alternative ways of limiting governmental opportunism
  - Contract
  - Administrative process
  - Highly specific legislation
- Institutional environment may hinder or facilitate implementation

Division of powers

- Judicial independence required to
  - Uphold contracts
  - Uphold procedures
- Unified vs divided government
  - Control of executive over legislature facilitates overturning of specific legislation
  - Party alternation generate political risk in unified gov’ts
- Bureaucratic capabilities
  - Facilitate complex rules

FIGURE 1
A DECISION TREE



Regulation by Contract

- Individualized regulation
- Same hazards as public procurement

Third Party Opportunism

- Defining feature of contracts with the State
- Incentives for *third* parties to challenge "probity" of public agent in spite of action being ethic and legal
  - Political incentives (fundamental)
  - Economic incentives

Conditions for 3rd Party Opportunism

- Action
  - Must look improper
    - Seemingly large transfer to a private party
    - Seemingly improper implementation of contract
    - Others
- Actors
  - Interested third party competes with public agent in another (political) market
    - Democracies
- Information
  - Informational asymmetries between the third party and courts or public in general
    - The more complex the public/private transaction, the higher the incentive for third party opportunism

TPO Game: Hazards into Rigidities

- Four agents involved in public contracting:
  - Incumbent public agent
    - Given project's size, selects extent of contract rigidity, given expectations concerning potential challenges and degree of success
  - Private contractor
    - Given project's features and rigidity, selects price
  - Third-party challengers
    - Political opponents to the incumbent public agent, competitors to the contractor, and interest groups
    - Given its information about nature of project, choice of rigidity, cost of challenge, and potential internalization of benefits from challenge, decides whether to challenge the public agent or not
  - Public at large, i.e., voters and courts
    - Determines challenger's success

Equilibrium

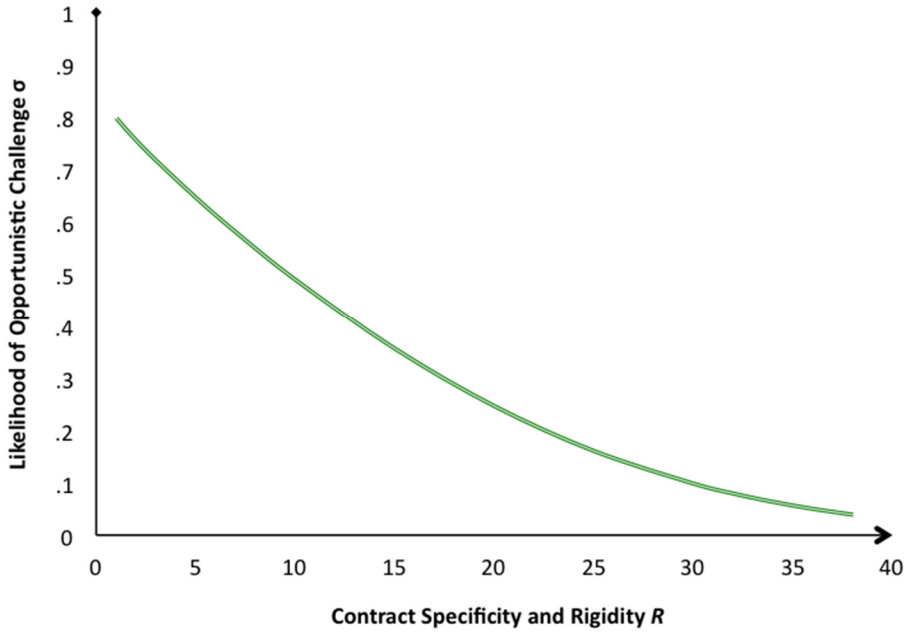
- Level of rigidity
  - Such that maximizes public agent expected benefits
- Probability of challenge (as perceived by public agent)
  - Consistent with optimal challenge choice by TP
- Price
  - Incorporates cost of rigidity

Some simple results

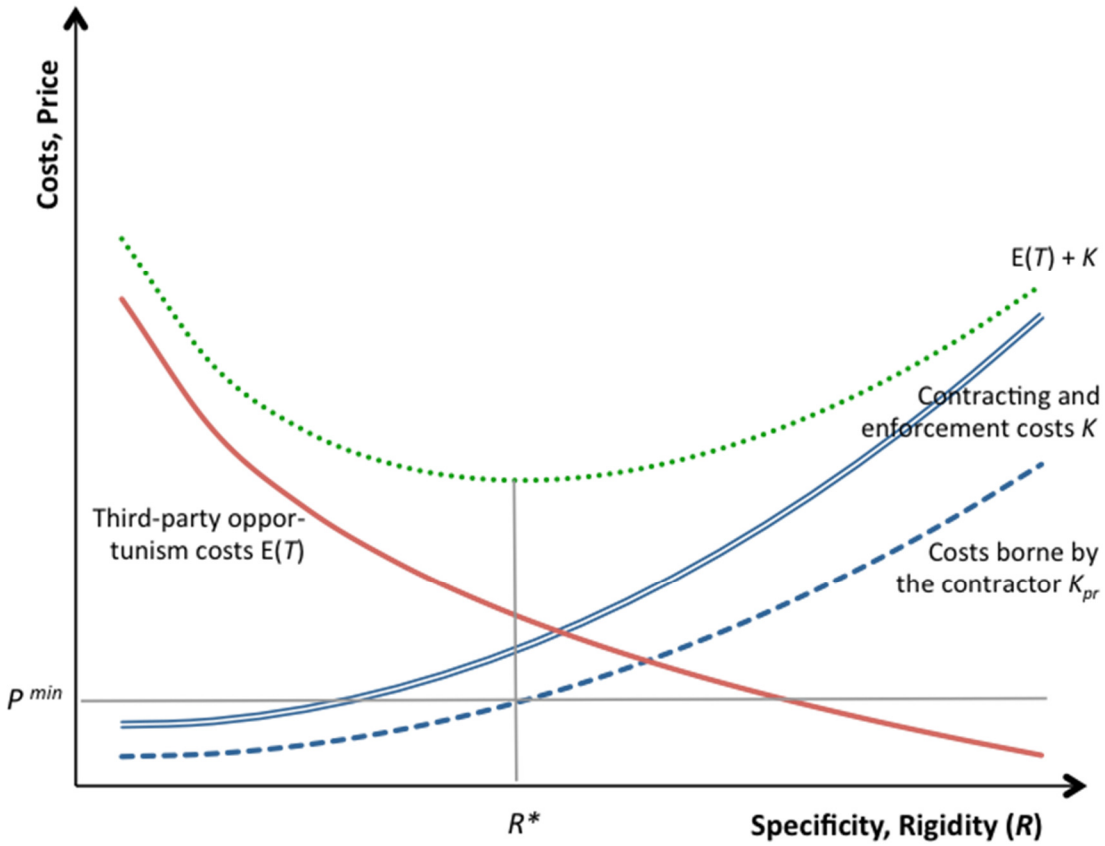
- Expected third-party opportunism costs are decreasing and strictly convex in rigidity
- Contracting and enforcement costs are rising and convex in rigidity

Endogeneous Opportunistic Challenge

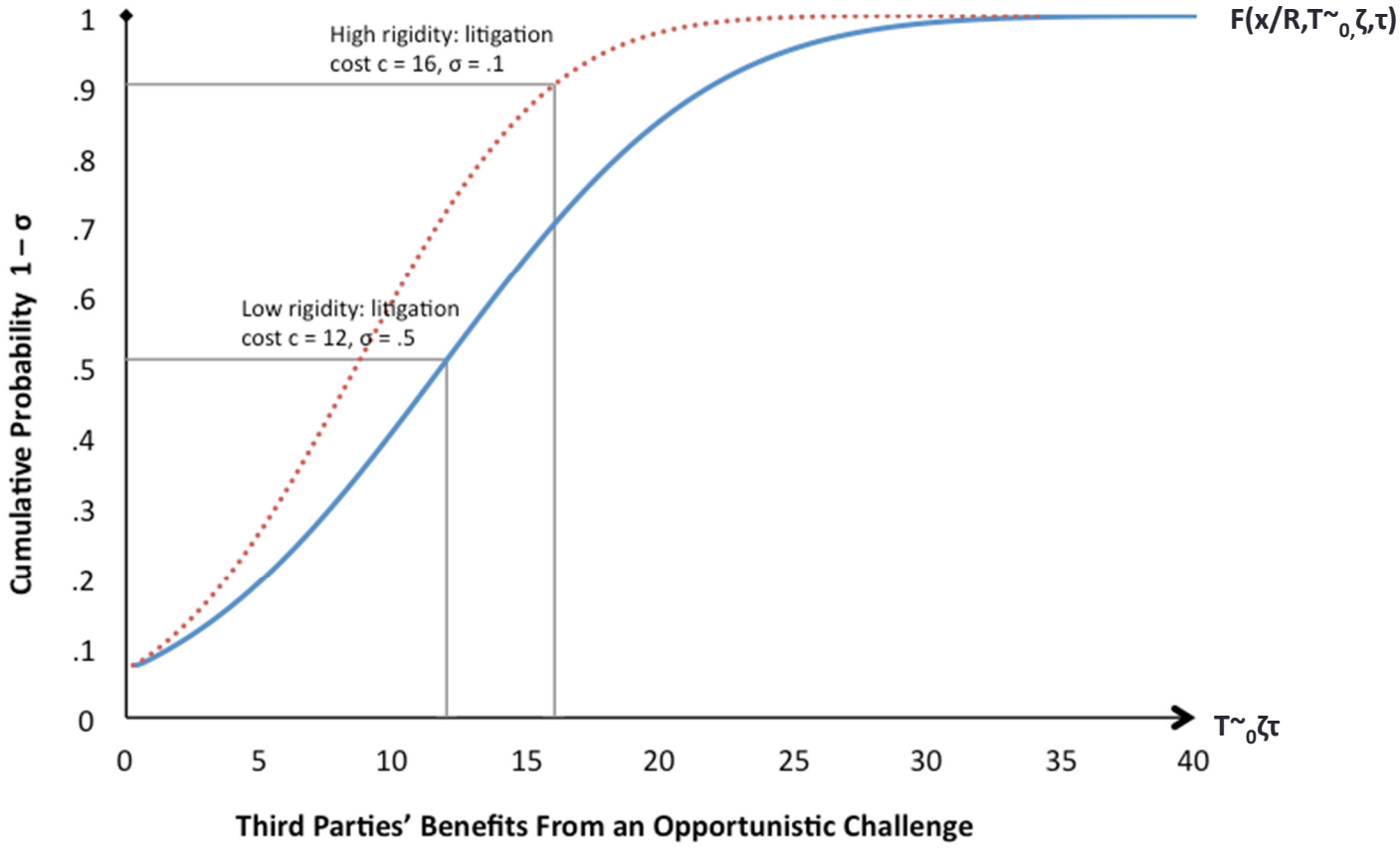
- An increase in specificity and rigidity R carries two effects:
  - It lowers the likelihood of success of a TPO challenge
  - It increases cost of challenge c
  - Thus it decreases the probability at which an opportunistic challenge pays off



Optimal choice of rigidity



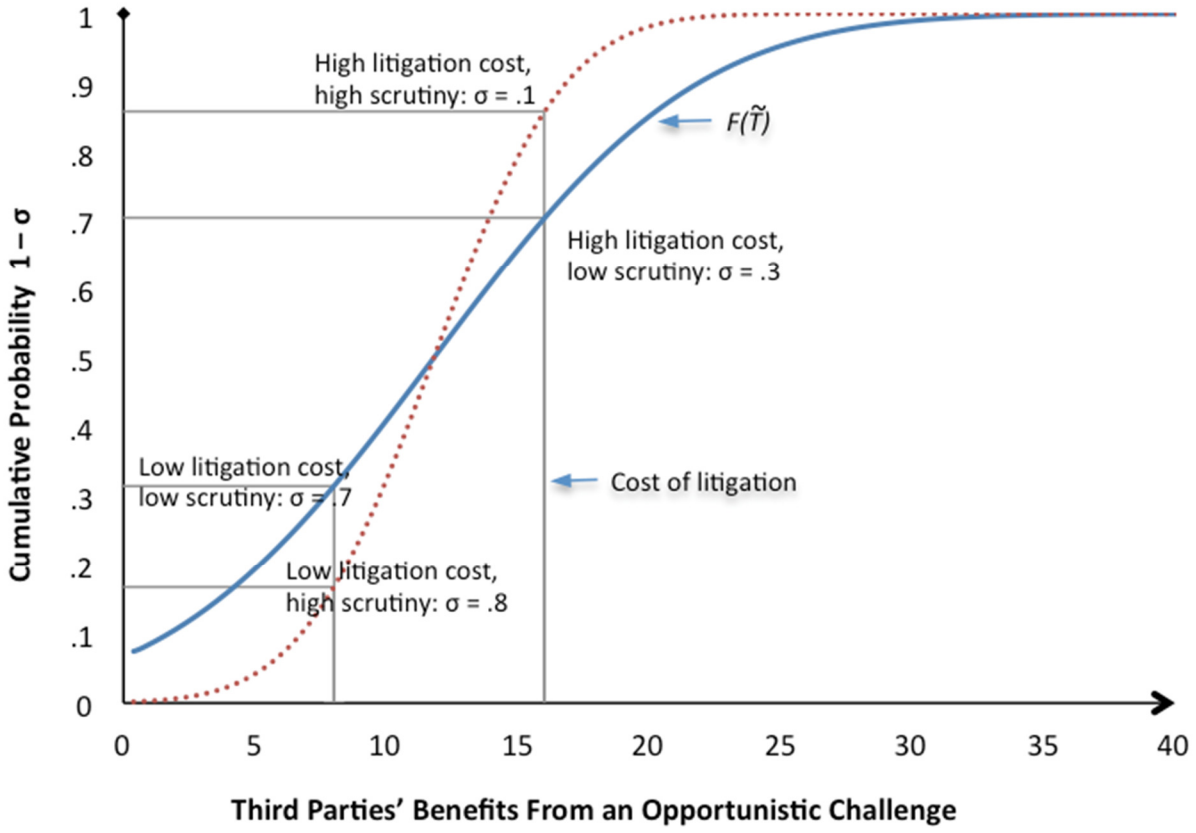
Rigidity and TP challenge



Implications

- Contractual properties consistent with public contracting practice:
  - Larger contracts imply higher expected political benefits for opportunistic third parties (higher mean), thus higher probability of challenge, given costs
  - Probability of challenge is sensitive to success probability (the institutional environment). The more success probability moves with rigidity, the more probability of challenge falls with rigidity
    - Rule of law implies higher probability of challenge
  - Higher dispersion in TP's beliefs leads to lower (higher) challenge equilibrium probability in relatively low (high) cost environments
    - Role of public access to information

Scrutiny: changes in TP's benefit expectations



Political Market Structure

- If the political opposition is fragmented, benefits from a challenge can go to any of the political competitors, not necessarily to the challenger who bears costs
- With atomized political opposition, challenger will face no benefits, and there will be no TPO challenges (mono-partisan or autarky system)

Applications

- Bureaucracies
- Fixed-Price vs. Cost-Plus Contracts
- PPPs and Key Performance Indicators
- Public-to-Public Contracts
- External Consultants and Certification of Contractors
- Efficient Small Communities and Authoritarian Regimes
- Privatization of Government-Owned Companies
- Regulation

(In)Efficient Regulation

- Utility regulation governance of public procurement of public services
  - Subject to same pressures for rigidity in implementation
  - 2nd best “optimal regulation” schemes generate too high TPO risks
    - Large cash transfers politically not credible
      - Penalties > bonuses
    - Price rigidity
    - Higher ex-ante prices

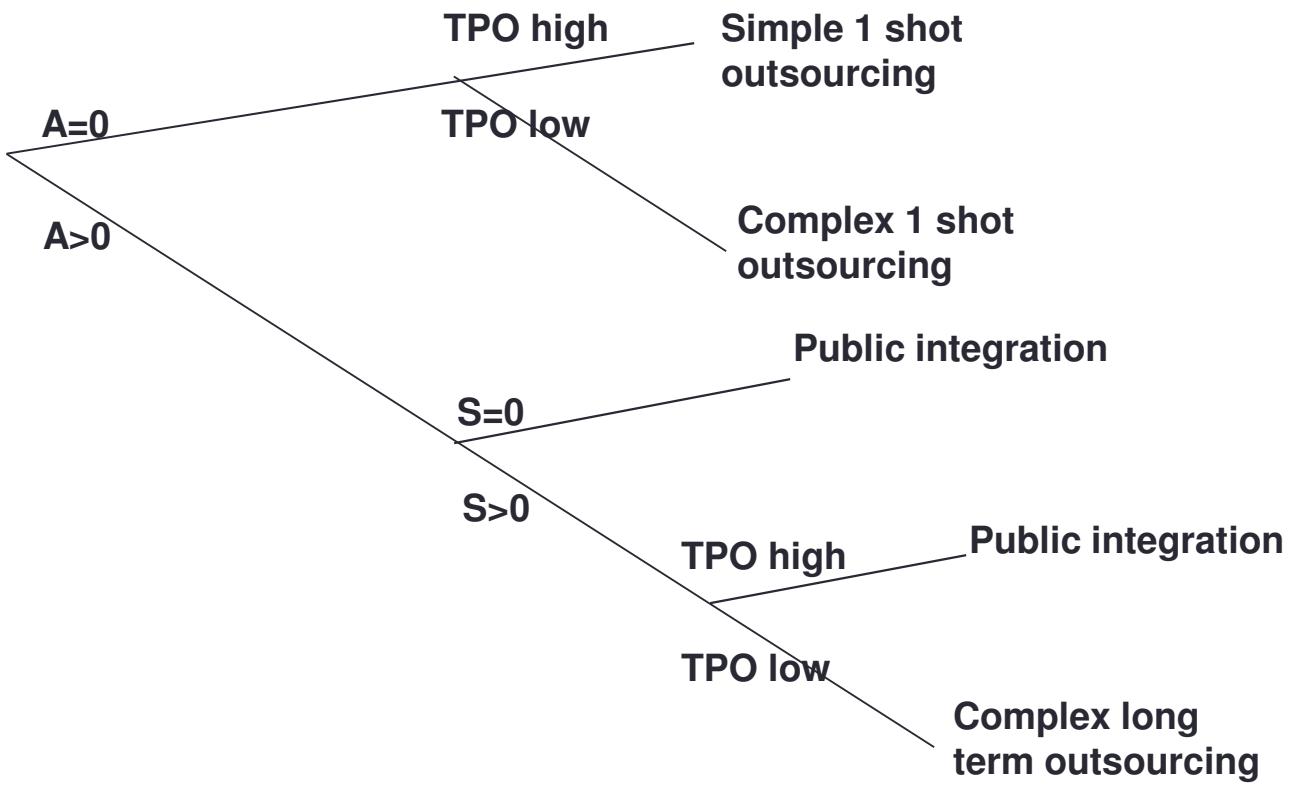
Implications of Third Party Opportunism

- Added safeguards over and beyond normal contract with private sector
  - Improve contractual completeness
    - Higher contract specificity
  - Limit claims of improper behavior
    - Higher contract specificity
    - Limit high power incentive clauses
    - Higher procedural rigidity
      - More requirements for formal renegotiation
      - More conflicts
- Can “relational public contracting” operate?

Vertical Integration into Public Bureaus Revisited

- Alternatives
  - Outsourcing
    - One shot public contracting
    - Long term public contracting
      - Nature of outsourcing process
        - Characteristics of transaction
        - Need to reduce TPO
  - Integration

Public Contractual Hazards and Public Integration



Public Outsourcing

- Complex Long Term
  - Highly detailed contracting
  - Low power incentives throughout
  - Formal renegotiation requirements
    - Looks very much like rate of return
- Complex one shot
  - Formalized procedures
  - Limited selection discretion
    - Looks very much like computer procurement
- Simple one shot
  - Officemax

Public Integration

- Bureaucracy comparatively efficient
  - Under right conditions
  - However, looks inefficient
    - Low power incentives throughout
    - Formal procedures for HR
      - Looks like civil service provisions

Evidence from Guasch/Laffont/Straub

Dependent variable: Dummy variable indicating the occurrence of renegotiation initiated by the firm

	(1)	(2)	(3)	(4)	(5)
Existence of regulatory body	0.41 (1.00)	0.03 (0.05)	-1.20 (-1.40)	0.84*** (1.87)	1.91* (2.94)
Price cap (IV)	8.42* (3.97)	8.09* (3.65)	6.57* (2.90)	18.15* (4.49)	13.37* (4.77)
Duration since award	0.23* (4.12)	0.23* (4.19)	0.20* (3.45)	0.17* (2.93)	0.20* (3.41)
Investment requirements	0.86** (2.19)	0.79*** (1.96)	0.93** (2.36)	0.82** (2.06)	0.77** (1.97)
Private financing (IV)	4.56* (3.96)	1.48 (0.66)	2.89** (2.07)	5.87* (2.99)	4.28* (3.59)
Bureaucratic quality	-0.75* (-3.77)	-0.85* (-4.05)	-0.21 (-0.65)	-0.23 (-0.83)	-0.23 (-0.87)
Arbitration process (IV)		3.74 (1.61)			
Minimum income guarantee (IV)			7.98** (2.10)		
Bidding process (IV)				-3.48* (-3.25)	
Duration of contract (IV)					-0.13* (-3.15)
Election-1	0.21 (1.02)	0.23 (1.16)	0.30 (1.41)	0.23 (1.09)	0.21 (1.02)
GDP growth-1	-0.07* (-3.18)	-0.07* (-3.33)	-0.08* (-3.52)	-0.07* (-3.02)	-0.07* (-3.15)
GDP growth-2	-0.16* (-6.41)	-0.16* (-6.50)	-0.18* (-6.10)	-0.20* (-6.11)	-0.17* (-5.98)
Transport sector	-1.85** (-2.43)	-2.79* (-2.86)	-2.45* (-2.93)	-2.20* (-2.65)	-2.87* (-3.35)
Number of obs.	1132	1132	1132	1132	1132
Log Likelihood	-126.43	-125.08	-124.07	-119.60	-121.05

Note: IV in parenthesis denotes an instrumented variable.
Coefficients significant at the 1% (*), 5% (**) and 10% (***) level.

Conclusions

- Utility regulation comes to solve a contracting problem
  - Sunk investments
  - Governmental opportunism
  - Third party opportunism
- Regulatory process and nature it takes will depend on the institutional structure