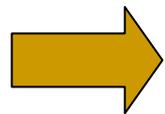

*Contractual Design and
Renegotiation:
Impacts on Yardstick Competition
Efficiency*

Aude LE LANNIER
University Paris XI - ADIS-GRJM

audelelannier@yahoo.fr

Introduction

- **Benchmarking** of firms' performance and **financial consequences** of the comparisons.



Incentive regulatory tool which enables the regulator to introduce **virtual competition** into locally monopolistic industries (Shleifer [1985]).

Theory:

- One single method:
 - provides strong incentives.
 - is very constricting for the firms.
- A rigid contract, with no renegotiation.

Practice:

- Several methods
 - less incentives.
 - less constricting.
- Renegotiation may occur.

Introduction – The various applications of YC.

Activity Sector	Country	Type of Use
Railway infrastructures	Great Britain	Assisted benchmarking
Railroad	Japan	Cost regulation
Bus network	Norway	Cost regulation
Water	Great Britain Portugal	Assisted YC Sunshine regulation
Electricity and gas	Various	Various



Introduction - Motivation

- How can we explain that the various methods used in practice lack incentives?
 - A limited regulatory commitment = renegotiation may occur
 - Ability to face endogenous/exogenous pressures.
 - A trade-off in terms of contractual design
 - Does there exist an optimal level of rigidity/renegotiation?

- Which impact on YC efficiency?

Theory and Method

- Theory:
 - Yardstick models : Shleifer [1985], Auriol [2000], Chong and Huet [2006]:
 - A perfect regulatory commitment.
 - Guasch, Laffont, Straub [2006,2008] and Laffont [2003,2005].
 - Model of individual incentive regulation with renegotiation.
- Method:
 - We show that, in equilibrium, ex post profits may be negatives.
 - We introduce a limited regulatory commitment into a yardstick model = a probability of renegotiation.
 - We analyze the impact of 3 contractual designs on YC efficiency.

An Agency Model with a limited regulatory commitment

Investments in the enforcement mechanism	No investments	
<p>A rigid contract</p> <ul style="list-style-type: none">■ No renegotiation is expected ex ante.■ Ex post renegotiation■ Renegotiation cost, investment, rent left to the firms.	<p>Non constricting</p> <ul style="list-style-type: none">■ Compensates the firms' losses.■ Avoids renegotiation■ Costly: transfers and public funds.	<p>Flexible</p> <ul style="list-style-type: none">■ Avoids the enforcement and public funds costs.■ But doesn't limit renegotiation : Expects renegotiation ex ante.

Main Results (1/4)

- **Proposition 1: YC vs Individual incentive regulation: the enforcement difficulties**
 - *Suppose that*
 - *there are two symmetric firms ($\beta_1 = \beta_2 = \beta$)*
 - *there is no ex post shock ($\varepsilon = 0$).*
 - *Yardstick competition prevents the problem of enforcement from occurring.*
 - *However, when an ex post unfavourable shock occurs,*
 - *the firms' ex post profits may be negative*
 - *and enforcement difficulties appear with yardstick competition.*

Main Results (2/4)

- Proposition 2: **Ability to manage exogenous and endogenous shocks**

- *The higher the level of investment in the enforcement mechanism*

= the higher the regulator's ability to manage endogenous and exogenous pressures

= the higher the probability not to renegotiate a rigid contract,

 ***The more efficient the rigid contract.***

- Conditions:

- the cost of public funds is limited.
- the renegotiation is not perfectly efficient.
- the renegotiation is socially costly in terms of rents.
- the maladaptation costs are limited.

Main Results (3/4)

- Proposition 3: **Efficiency of renegotiation**
 - *The more efficient (or the less costly) renegotiation*
 - *the smaller the interest in investing in the enforcement mechanism;*
 - ***the more efficient the flexible contract compared to a rigid one.***
 - Condition :
 - the probability of not renegotiating a rigid contract is sufficiently high;
 - the regulator has a minimum ability of facing endogenous and exogenous pressures.

Main Results (4/4)

- Proposition 4: **Cost of public funds**
 - The higher the cost of public funds
 - the smaller the level of investment in the enforcement mechanism.
 - the higher the probability that a rigid contract will be renegotiated.

 *The higher the cost of public funds, **the more efficient a flexible contract**, compared to a rigid one.*

- Condition: Verified only for a minimum level of investment in the enforcement mechanism.

Conclusion

- We observe:
 - A lack of consensus on how to design and implement YC: lack of incentives.
 - Renegotiation.
- We explain this constat:
 - A limited regulatory commitment.
 - A trade-off on contractual design: explain the lack of incentive.
- We assume another possibility: a flexible contract.
- The choice depends on: the cost of public funds, the renegotiation efficiency, the proba that a rigid contract is renegotiated.

Thank you !

Aude LE LANNIER
University Paris XI - ADIS-GRJM

audelelannier@yahoo.fr

Annex 1: « *Assisted Benchmarking* »

Main objectives	Identify the productivity variations Reduce informational asymmetries
Frequency	Occasional mechanism
Sanction	No
Regulator power	Weak, no coercive power
Incentive	Weak
Constraint	Weak
Condition	Consensual climate Adequate information transmission



Annex 2: « *Sunshine Regulation* »

Main objectives	Incite firms to do efforts Reduce informational asymmetries
Frequency	Occasional mechanism
Sanction	Indirect sanction on reputation
Regulator power	Investigation and expertise power; Limited coercive power; The regulator as a « moral authority »
Incentive	Average incentive; Indirect virtual competing pressure exerted by the stakeholders
Constraint	Average/high, according to the efficiency conditions
Condition	Firms fear the impact on reputation Consensual climate Credible regulator to mobilize public opinion Adequate information transmission



Annex 3: « *Assisted yardstick competition* »

Main objectives	Reduce cost inefficiencies Reduce informational asymmetries
Frequency	Occasional mechanism, to set the x-factor
Sanction	Direct. Comparisons are introduced into the tariff formula.
Regulator power	Limited coercive power, but the regulator can incite firms by the setting of the x-factor by benchmarking.
Incentive	High
Constraint	High, prices depend on comparisons. The shareholders constitute a mean of pressure.
Condition	Adequate information transmission



Annex 4: « *Costs regulation* »

Main objectives	Reduce cost inefficiencies Reduce informational asymmetries
Frequency	Systematic mechanism
Sanction	Direct. Monetary penalties by the means of transfers.
Regulator power	High coercive power
Incentive	Very high. It approaches the normative models.
Constraint	Very high. The benchmarking sets directly the bas of costs reimbursement.
Condition	Adequate information transmission; Possibility for the regulator to face complaints in the Courts

