

# Applied Research on PPP: Challenges and Pitfalls

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# Why is PPP important to management scholars?

## PRINCIPALS

FEW, WELL-DEFINED

MULTIPLE, DIFFUSE

PERFORMANCE  
DIMENSIONS

FEW,  
OBJECTIVE

For-profit firms with concentrated ownership (e.g. family firms)

For-profit firms with diffuse ownership (e.g. publicly traded firms)

SEVERAL,  
SUBJECTIVE

R&D alliances; small community NGOs

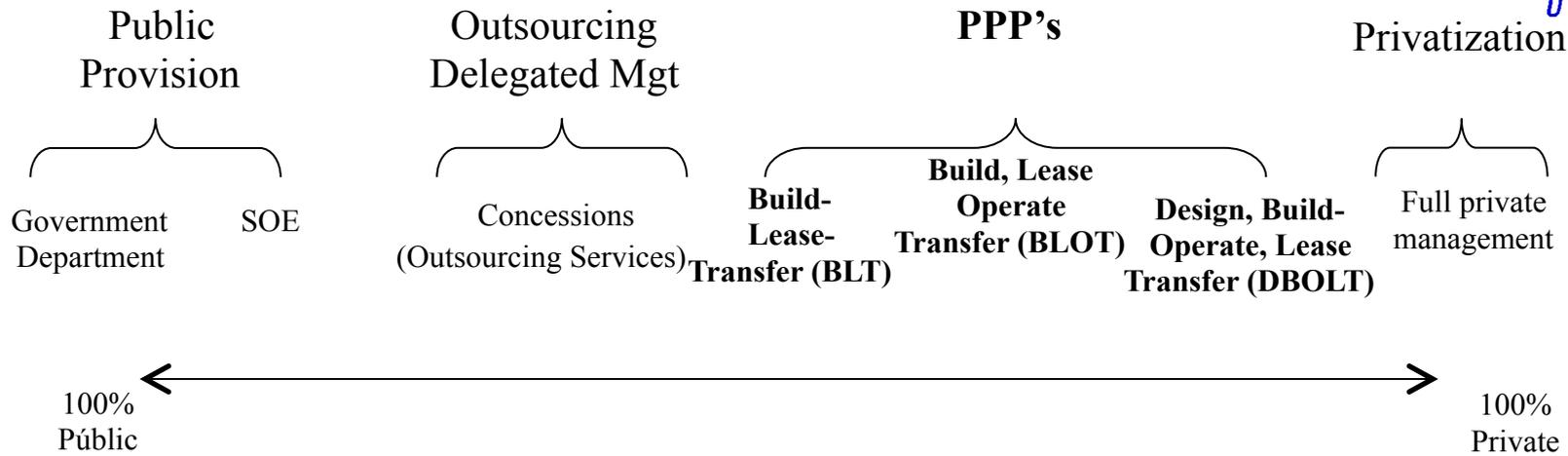
**Organizations in key public services (e.g. health, education, prisons, police...)**

Source: Cabral, Klein, Lazzarini and McGahan (in progress)



PPP offers both theoretical and practical insights

# PPPs: A Fuzzy Concept



Source: Cabral (2006)

- Privatization, PPP, and rhetoric
  - In Latin America privatization is a pejorative expression
  - PPP as a more friendly term
- Definition changes according to each country's laws

# PPP – one more definition...



- In general PPPs involve joint interaction between government and private agents. Government may specify the needs, supervise to guarantee the public interest, and/or provide some services with private firms. Control rights and risk might be shared with private agents.
- A broader definition helps us to explore the different mechanisms of interaction between public and private agents



# Current works on PPP

- There are good contributions but there is a lot of “science for its own sake” work
- Assumptions and findings should make sense to public and private managers involved with PPPs
  - Government as a social welfare maximizer or a self-interested body who wants to be reelected?
  - “...discretionary payments and repeated interaction conditional on non-verifiable performance are banned by accountability rules” (Iossa et al, 2010)
  - Relational contracting is constrained by accountability rules, but evidence suggests it happens! Why?

# Current works on PPP

- Assumptions and findings should make sense to public and private managers involved with PPPs
  - How compensation schemes are defined? Do embedded relationships matter? How do they evolve?
  - As optimally contracting is hard to obtain, how about the learning and the interaction between public and managers actors?
  - Projects sometimes are not properly designed and risks are not likely to be optimally allocated
    - e.g. Football Stadiums
- A clue: integration of different theoretical lenses should help (Gibbons, 2005, J.Econ.Perspectives)
  - Multiple Lenses explanations to reflect the reality of management in our theorizing (Okhuysen et al, 2011, AMR)





# Is our research in PPP really useful?



- Is rigor important?
  - Elements of a theory should be consistent, propositions or hypotheses should be logically derived, data collection ought to be unbiased, and measures must to be representative and reliable.
  - The answer is YES.
- Does rigor assure relevance?
  - Are our papers helping practitioners to understand their own organizations and situations better than before? Are we really worried about the implications of our research? Are we really communicating with managers?
  - Two possible polite answers: I'm afraid not or Probably, not.

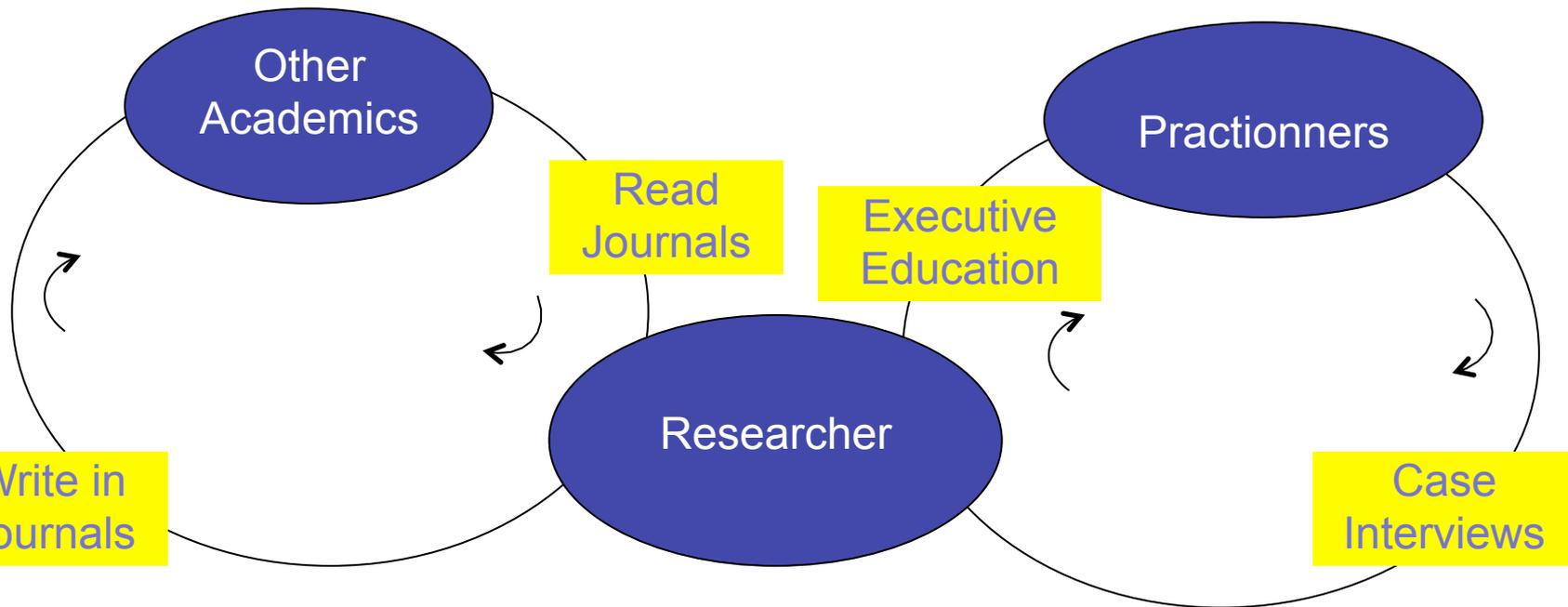
# Is our research in PPP really useful?

- Relentless focus on the implications of academic research for specific management problems is critical
- Researchers oftentimes focus on theories rather than real problems
  - Effort to find situations that adjust to their theoretical framework
  - Importance of keeping labels: Specialist on TCE, ICT, RBV, Dynamic Capabilities, Sociological Institutionalism, etc.
- Researcher contact with managers is an essential ingredient of the process (See Mcgahan, 2007, AMJ)
- Need to move to a second loop (Vermeulen, 2007)

# Is our research in PPP really useful?

Loop 1: Rigor

Loop 2: Relevance



Loops of Communication : Source Vermeulen (2007, AMJ)

Go into the mountains and smell the beast!

# Empirical research on PPP...



- ...more likely to make sense to a broader audience...
- ....but the data are so hard to get.
  - Sometimes the data simply do not exist
    - Recent PPP experiences - absence of records
    - Sorry, nothing to do here but modeling and/or wishful thinking driven works
  - Sometimes data are not properly recorded
    - Occasionally is possible to fix and or to combine with different datasets
    - Takes time but someone must to do it

# Empirical research on PPP



- ....but the data is so hard to get (cont...)
  - Sometimes public officers do not make them available
    - Need to develop strong ties with public officers (upper and lower levels) – Persistence and luck!
- It is not easy, but it is worth it.
- Unique datasets can give us first-mover advantages
  - Unveil certain counter intuitive theoretical issues
  - Provide influential contributions for practice

# Empirical research on PPP



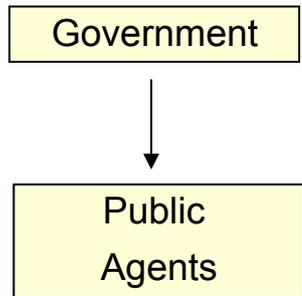
- Example 1: Chong et al (2006, Review of Industrial Organization)
  - Unique dataset from water distribution in France
    - 3650 observations from two different sources
    - Several kids (I mean papers)
  - Contractual choices are endogenous
  - Type of PPP affects price
  - Important practical contribution
  - Gives some good theoretical insights for future research
    - Collusion
    - Ties between public authorities and private operator's executives
    - Enhancement of relational governance

# Empirical research on PPP

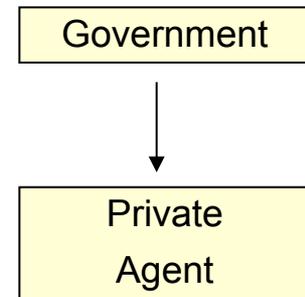
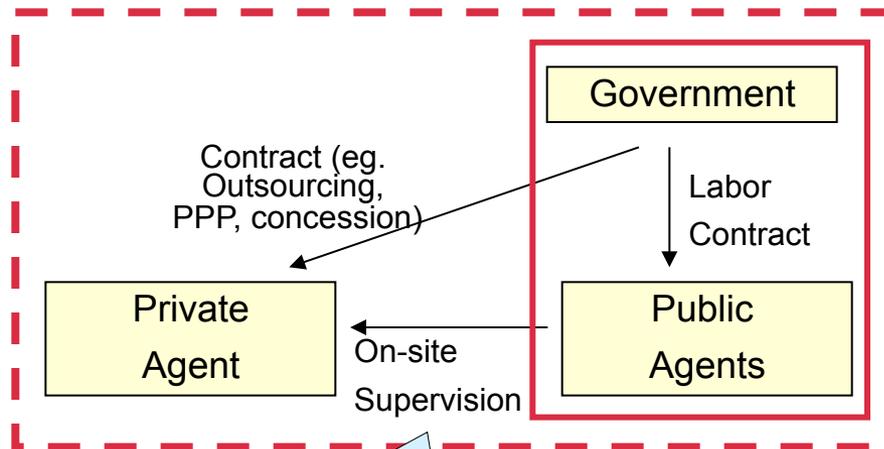
- Example 2: Cabral, Azevedo and Lazzarini (2010, Public Choice)
  - Prisons are a good theoretical example, but there are few works
    - Privatization – U.S.; Australia, South Africa...
    - PPP/PFI – United Kingdom, Brazil, Chile...
    - Outsourcing – Brazil, France
  - Lack of consensus regarding the effects of private participation in prison services
  - Hart, Shleifer and Vishny (1997, QJE) – cost vs. quality trade-off
    - “In important dimensions, such as prison violence and the quality of personnel, prison contracts are seriously incomplete” (p. 1152); “[hence] a plausible theoretical case can be made against prison privatization” (p. 1154)

# Empirical research on PPP

- Example 2: Cabral, Azevedo and Lazzarini (2010, Public Choice) – Hybrid Modes



Public Provision



Full Privatization

**Local supervision to constrain low quality provision.**

**But, who guard the guardians? (Plato, 380 BC). Public monitors (wardens) wouldn't collude? If true, cost-quality trade-off would occur.**

# Empirical research on PPP



- Example 2: Cabral, Azevedo and Lazzarini (2010, Public Choice)
  - Prisons operations outsourced to private operators in a hybrid fashion
    - Empirical studies are needed: What is going on out there?
    - But, getting into mountains and smelling the beast is not that easy
      - Several months to negotiate
      - On site visits to increase confidence and to develop personal relationships
      - Lack of aggregate data
      - Hard, but it's worth it!



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# Empirical research on PPP



- Example 2: Cabral, Azevedo and Lazzarini (2010, Public Choice)
  - 15 in depth interviews
  - Panel Data for quality performance indicators
  - 13 prisons (6 outsourced) from 2001 and 2006 in a given Brazilian state
    - 65 observations. Is there any problem? Yes and No!
  - Dependent variables
    - Deaths, Escapes – Poisson regression
    - Medical and legal assistance to inmates – GLS regression
  - Controls to avoid bias and self-selection (capacity, age, overcrowding, etc) – No multicollinearity)

$$y_{i,t,d} = f(OUTSOURC_i, \psi_{i,t}, \phi_{i,t})$$

## Results of security and order indicators

	<i>ESCAPES</i>			<i>DEATHS</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>OUTSOURC</i>	-3.327*** (0.865)	-2.076*** (0.767)	-1.874** (0.802)	-0.662 (0.429)	-0.844** (0.387)	-0.616* (0.367)
<i>AGE</i>	-0.012 (0.016)		0.0151 (0.0134)	0.002 (0.008)		0.010* (0.006)
<i>OVCROWD</i>	-0.262 (2.141)		-1.915 (2.019)	0.306 (1.45)		0.735 (1.280)
<i>LOCALIZ</i>	0.361 (0.989)		0.452 (0.672)	-0.827* (0.462)		-0.243 (0.378)
<i>CONVICT</i>	0.098 (1.017)		-0.509 (0.577)	-0.626 (0.455)		-0.78*** (0.293)
<i>INM_WORK</i>		0.384 (1.103)	0.557 (1.167)		-1.424** (0.699)	-1.56** (0.618)
<i>EASY_INM</i>		-5.569*** (1.262)	-6.692*** (1.671)		-0.431 (0.730)	-0.914 (0.636)
<i>Intercept</i>	0.615 (2.518)	1.630*** (0.451)	3.60* (2.130)	0.415 (1.613)	0.998** (0.401)	0.615 (1.454)
<i>N</i>	64	64	64	65	65	65
<i>Wald <math>\chi^2</math></i>	15,22***	28.96***	27.90***	9.33*	10.41**	48.39***

Note: \*  $p < 0.10$  \*\*  $p < 0.05$  \*\*\*  $p < 0.01$ . Poisson random-effect estimates; standard errors in parenthesis

# Empirical research on PPP

Correlation among dependent variables and presence of private participation

Variables	Expected Correlation (Received Theory)	Results	Statistically Significant?
<b>Escapes</b>	(+)	(-)	<b>Yes</b>
<b>Deaths</b>	(+)	(-)	<b>Yes</b>
<b>Medical Assistance</b>	(-)	(+)	<b>Yes</b>
<b>Legal Advisory</b>	(-)	(+)	<b>No</b>

Results show that quality indicators are not negatively affected by private operation in hybrid mode, but why?

# Empirical research on PPP



- Explaining hybrid governance performance in prisons
  - Monitoring by civil servants and allocation of decision rights
  - Flexibility of private sector
  - Incentives from private operator side
    - Reputation matters to get new contracts in the future
  - Incentives from public supervisors' side
    - Jobs preservation, social norms, veto players
  - We have modeled that ...

# Our Model - Describing mechanisms hybrid mode may operate

Two players: a private operator and an appointed public supervisor

The monthly profit of the private operator is given by

$$\pi = F - x(ex) - Cx(ex) - Cq(eq)$$

$ex$  and  $eq$  - effort levels to reduce the costs of the prison and to guarantee quality.

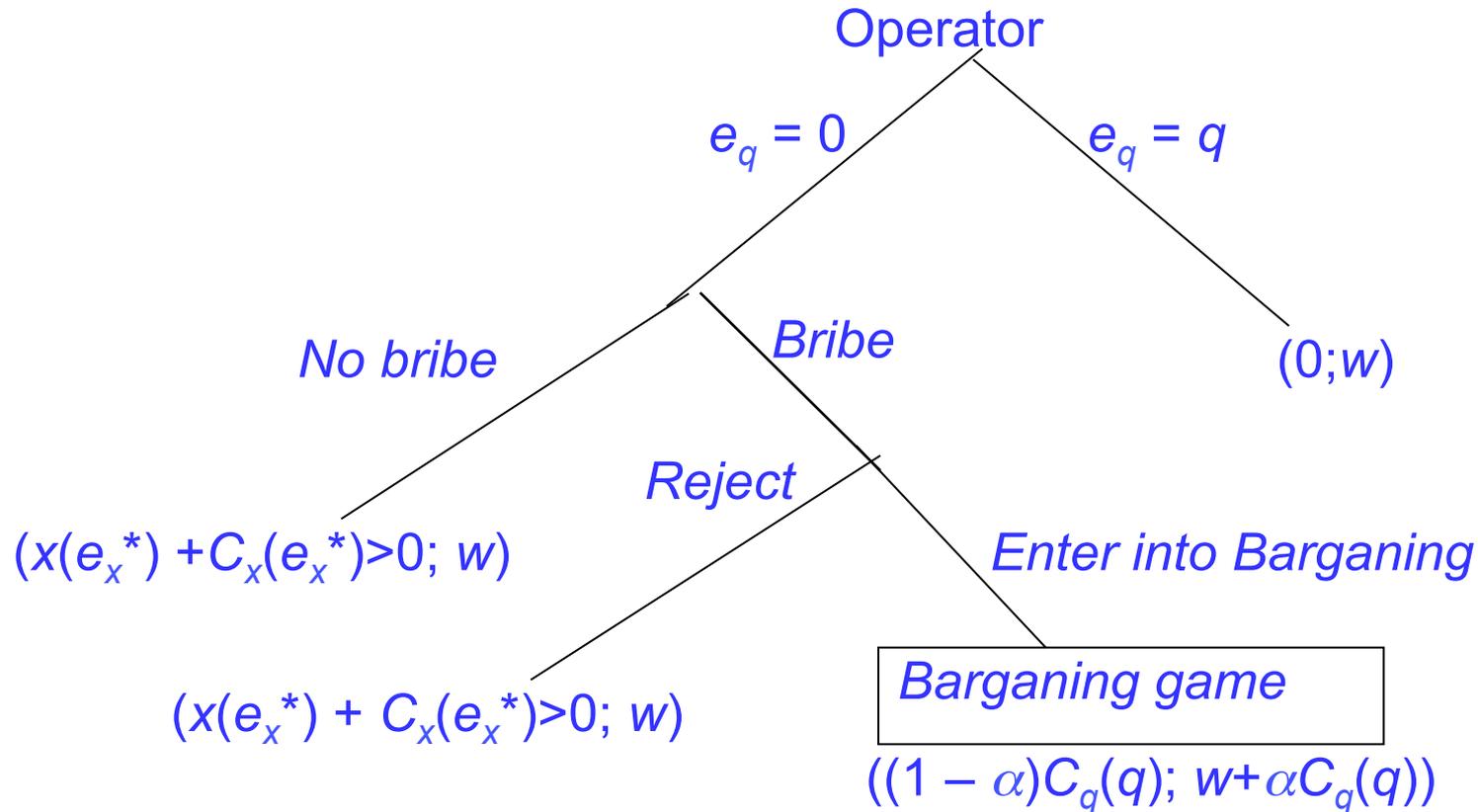
$x(ex)$  is the level of operating costs of the prison as a function of the private operator's efforts to reduce costs

Private operator chooses  $eq$  ( $0 \leq eq \leq q$ )

$w$  = monthly wage;  $b$  = bribe ( $0 \leq b \leq Cq(q)$ )

$b = \alpha Cq(q)$  - where  $\alpha$  is a fraction of the private rent

# Game between public supervisor and private operator



**There are incentives to reduce quality and collude with the public supervisor by sharing the gains resulting from cost savings!**

# 2.1 The Model

- How then to create incentives for the public supervisor to effectively enforce the quality dimension (and to refuse the bribe)?
  - Implicit contracts – reputational concerns

$$U_{refuses} = \frac{w}{1 - \delta} \quad U_{accepts} = \frac{w + \alpha C_q(q)}{1 - \delta(1 - \mu)}$$

- $\delta \in (0, 1)$  – probability that the public supervisor will continue working for the government in each period.
- $\mu \in (0, 1)$  – probability that retaliation will occur

# 2.1 The Model

- Public supervisor will refuse the bribe and enforce the quality dimension if
  - $U \text{ rejects} \geq U \text{ accepts}$
- Hence,

$$w \geq \frac{\alpha C_q(q)(1 - \delta)}{\delta \mu}$$

- Larger  $\delta$  the lower the minimum  $w$  necessary to enforce the implicit contract.
- Increases in  $\mu$  decrease the minimum  $w$  to support the implicit contract.
- The minimum  $w$  increases with  $C_q(q)$ .
- Hybrid governance will display lower costs *but will not face a reduction in quality indicators*
- Privatization is less advantageous than hybrid mode - “temptation” to defect (choose low quality) is higher - See equation 6 in the paper 28

# How about new frontiers?

- Several avenues of investigation
  - Why PPP have not disseminated in some countries as many of us expected?
  - Trade off relational contracting and accountability rules
  - Learning and routines in public-private interactions
  - Misalignment of governance choices in PPPs
  - Public and Private entrepreneurship (see SEJ call for papers)
  - Interplay between implicit and explicit incentives in PPPs
  - The role of public supervisors
  - How to leverage private investment in PPPs?
  - PPP in specific sectors: Sports, Health, Biotech...
  - NGO's ???

# Food for thought : NGO's and PPPs



- Under which conditions are NGOs (or Non-Profit organizations) better providers of public services?
- Bennet Iossa (2010, Oxford Econ. Papers)
  - À la HSV
  - NP may be associated with overinvestment in quality improvement, but under conditions that restrain this overinvestment the NGO may yield a higher level of welfare than would be obtained with provision by a for profit.
  - The introduction of PPP has enhanced the scope for advantageous provision by a NP

# Food for thought: NGO's and PPPs



- There are still some open questions.
  - Fund raising by NGO's? Is it possible?
  - How about the interplay between NGOs, government and private firms. Is it possible?
  - What can hamper endowment? Or investments from financial market in PPPs?
  - How about performance of the public facility supported by donations? Does it really affect investment decisions?

# Social Impact Bonds as a Promising Venue (Lazzarini, Cabral, Machado and Barbosa, in progress)



Instrument developed by **Social Finance**, a London-based NGO.

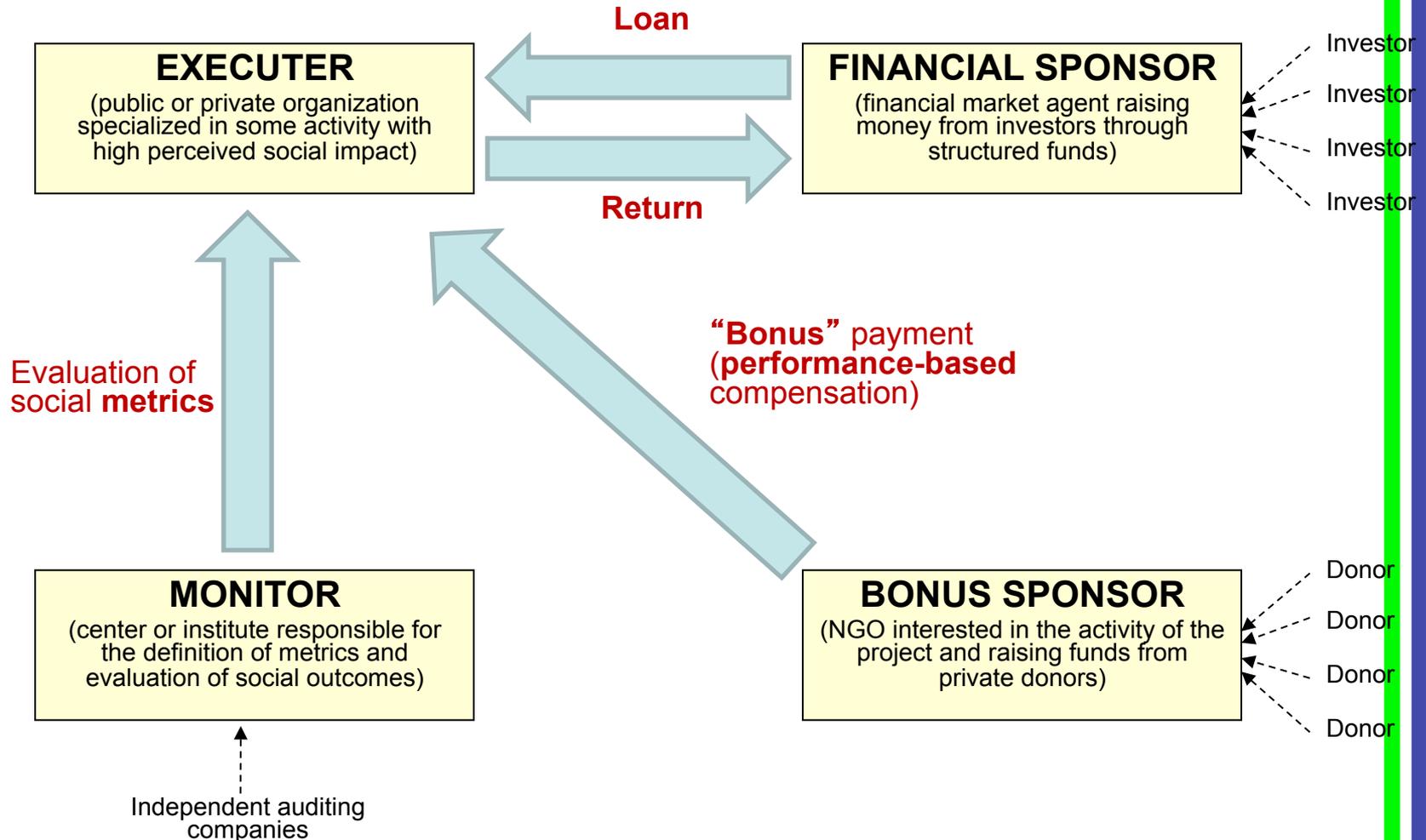
The objective is to compensate **social investors** based on established **performance metrics** for selected, high-impact social projects.

In the English model, the performance-based payment is provided **by the government**. Example: if a prison reduces the recidivism rate by 10% or more (compared to a control group), then investors will earn returns around 7.5% and 13.5%. Lower recidivism results in savings from the point of view of the government; these savings are then the basis for performance-based payments.



Source: <http://www.justice.gov.uk/news/announcement100910a.htm>

# Social Impact Bonds as a Promising Venue (Lazzarini, Cabral, Machado and Barbosa, in progress)



# Social Bonds

- Some practical and theoretical questions emerge:
- How to collect data? How about methodological procedures?
- How to implement social bonds initiatives?
- In which conditions can such arrangement be used? In which conditions will performance be superior to the costs of running the system?
- How about the interplay between public officers, NGO's, financial sponsors, donors, investors, and executers?
- Are financial incentives enough to assure performance improvement?
  - How to foster creative practices?

# Conclusions

- There is an immense room for additional research on PPP
- Potential emerging topic in Strategic Management community
- Empirical evidence is more than welcome
- Focus on problems that really matter to managers and society
  - New arrangements, public and private interactions
- “Salesman-ship vs. stinging criticism”
  - Impartial analysis is needed to move beyond the “ultras” debate

Thank you!

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