Lecture 9:

Public Organization II

Competition and Incentives

- Here, I look at two issues which abstract from ownership concerns.

  - Incentive Design

  - Role of Competition

- Key questions

– Are there any differences between incentives for the provision of public goods and private goods?

– Does competition serve the same as in markets for private goods:

3 paradigms for competition

- Business stealing – interdependence of demand

  – generates cost efficiency?

  – keeps prices low and hence maximizes social surplus

- Liquidation threats

  – good for cost minimization

- Matching

– labor markets

– product markets

Literature

- Standard principal agent problems:

  - Agents motivated by money

  - Effort unobservable

  - High powered incentives bring forth effort

- New Public Management applied this paradigm in public services

What is the NPM?

- Two components (Barzelay)

- Adminstrative Philosophy:

  - Hands-on Management

  - Focus on Results

  - Consumer Orientation

  - Stress on Transparency and Accountability

- Style of Organizing Public Services

- Executive Agencies

- Contracting Out

- Quasi-markets

What is the NPM a reaction to?

- Traditional bureaucratic model of service provision:

  - limited incentives

  - limited choice

  - centralization

The Whitehall Village

- Heclo and Wildavsky: [1974] The Private Government of Public Money

- "The traditional picture of a village world regulated in a relatively informal way through largely unwritten rules, a compliance culture and low relational distance between regulator and regulate still appeared to capture much of the style of regulation within Whitehall a quarter of a century after Heclo and Wildavsky's study." (page 73) (from Hood et al).

- The NPM and its variants are reacting to this model.

Reasons to question NPM

- Non-standard Principal agent concerns

  – Multi-tasking

  – Intrinsic motivation

  – Sorting

  – Career concerns

- Empirical evidence on incentives even in private organization is weak.

Competition and Incentives (private sector)

- Theoretical effects are ambiguous

  - Hart/Scharfstein – effects of rents

  - Schmidt – liquidation effect

- Some empirical evidence:

  - Empirical evidence – Nickell (1986)

Empirical evidence on Competition and Incentives in the Public Sector

- Schools are an important/interesting example

- Do schools perform better when they face more competitors?

- Hoxby's work for the U.S. is very influential

- Burgess-Propper-Wilson for the U.K.

What is special about public sector incentives?

- Missions – organizations pick and deliver missions for providing public services

- Motivation – Principals and agents are motivated by standard concerns such as money, but also have some independent preference for the value of the mission.

- Matching – decentralization can raise efficiency by decentralizing missions and allowing principals and agents to sort together on the basis of their mission preferences.

Socliazation and Incentives

- Identity in organizations – Akerlof/Kranton

- Organizations shape views and modes of working

  - Max Weber: "An office is a vocation. Entrance into an office is an acceptance of the fealty to the purpose of the office."

- Akerlof/Kranton

  - "If (Weber's) observation reflects the behavior of most jobholders, the standard economic theory of behavior in organizations (principal-agent theory) has missed most of what causes them to function."

A Simple Model of Competition and Incentives with Motivated Agents

- A firm consists of a risk neutral principal and an agent who is needed to carry out a project.

- The project's outcome is high $(Y_H = 1)$ or low$(Y_L = 0)$.

- The probability of the high outcome is the effort supplied by the agent, e, at a cost $c(e) = e^2/2$.

- Effort is unobservable and hence non-contractible.

- The agent has no wealth which can be used as a performance bond.

- There are different kinds of principals (can be thought of output with different missions)

- Agents get $\theta > 0$ from working for the "right" principal and zero otherwise.

- Principal gets $\pi > 0$ from produce the high outcome

- Principals and agents match and then principals offer agents incentive contracts

Contracts

- Fixed wage – w

- Bonus – b

- Outside option – $\bar{u}$

Optimal Contracts

$$\max_{e,b,w,x} v^p = \pi e - \{eb + w\} \qquad (1)$$

subject to:

- LLC

$$b + w \geq 0, \, w \geq 0 \qquad (2)$$

- VP

$$v^a = e\left(b + \gamma\theta\right) + w - \frac{1}{2}e^2 \geq \overline{u} \qquad (3)$$

- ICC

$$e = \arg\max_{e \in [0,1]} \left(e\left(b + \gamma\theta\right) + w - \frac{1}{2}e^2\right).$$

where $\gamma = 1$ principal and agent are matched.

Solution I: Bonus Payments

- Key observation:

  - Basic wage is at the subsistence level – anything else is paid as a bonus

  - Bonus is:
  $$b^* (\gamma) = \max \left\{ \sqrt{2\psi} - \gamma\theta, 0 \right\}$$
  where $\psi = \max \left\{ \overline{u} - w, \frac{1}{8}(\omega)^2 \right\}$ and $\omega = \max (\gamma\theta, \pi) + \gamma\theta$.

  - Effort is
  $$e^* (\gamma) = b^* (\gamma) + \gamma\theta < \pi + \gamma\theta.$$

Four cases:

1. Agent is more motivated than the principal and the outside option is low, then $b^*(\gamma) = 0$ – no incentive pay!

2. Principal is more motivated than the agent and the outside option is low, then incentive pay decreasing in agent motivation:

$$b^*(\gamma) = \frac{1}{2}(\pi - \gamma\theta)$$

3. Outside option is high - incentive pay set by the "market" with a "discount" for agent motivation.

$$b^*(\gamma) = \sqrt{2(\overline{u} - w)} - \gamma\theta$$

4. Profit-oriented production – $\gamma = 0$ so case (1) is ruled out and there is always incentive pay.

$\gamma > 0$ increases organizational efficiency:

- *For example*, in case 2 above:

$$e^*(\gamma) = \frac{1}{2}\{\pi + \gamma\theta\}.$$

  with $b^*(\gamma) = \frac{1}{2}(\pi - \gamma\theta)$.

- Productivity is decreasing in γ.

  – This explains why matching on missions increases organizational productivity.

- Note also that cross-sectionally, $b^*(\gamma)$ and $e^*(\gamma)$ are negatively correlated!

Competition

- 2 roles:

- Raises $\bar{u}$

- Improves matching: $\gamma = 1$

Competition increases productivity

- Case 1: $e^* (\gamma) = \gamma \theta \ b^* (\gamma) = 0$.

- Case 2: $e^* (\gamma) = \frac{1}{2} \{\pi + \gamma \theta\}$ and $b^* (\gamma) = \frac{1}{2} (\pi - \gamma \theta)$:

  - Competition leads to $b^* (\gamma) = 0$ if $\gamma \theta > \pi$.

- Case 3 $e^* (\gamma) = \frac{\pi}{2}$. Competition with profit-oriented sector drives productivity. Bonus $b^* (\gamma) = \frac{\pi}{2} - \gamma \theta$.