LECTURE 5

Working of the government

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Agency Problems

Government is a public agency that provides services to the society.

Government is also a complex organization with subordination and hierarchy.

This poses two types of agency problems:

- external – between government and the society, and
- internal – between government employees (public servants) and their superiors

In this lecture we will discuss incentives and performance in these principal-agent settings

External Agency: Accountability Ex Post (Baron-Ferejohn)

$x \in [0,1]$ – executive's effort (fulfillment of duty)

$u(x) = \theta x$ – society's payoff

$v(x) = 1 - x + R$ – executive's payoff (R – "ego-rent")

u^* – re-election threshold. Optimal re-election threshold:

$1 - \frac{u^*}{\theta} + R + \delta\left(1 - \frac{u^*}{\theta} + R\right) + \delta^2\left(1 - \frac{u^*}{\theta} + R\right) + \cdots =$

$\frac{1}{1-\delta}\left(1 - \frac{u^*}{\theta} + R\right) = 1 + R$, and hence

$u^* = \theta\delta(1 + R)$ (assuming R is not too large); executive's payoff equals $1 + R$.

Limitations of Ex-post Accountability

The threat of termination of the agency relationship does not ensure complete fulfillment of duties

More frequent re-elections and higher ego-rent (more perks) improve the performance of an elected executive

Role of Government Transparency

Assume now that in $u(x) = \theta x$ multiplier θ is a random shock known to government but not observable to society.

The executive is still guaranteed the reservation payoff $1 + R$, but now can do better by reducing his effort and still meeting the reservation threshold (no matter what it is) under "good" circumstances and choosing $x = 0$ when circumstances are "bad" and realizing the reservation utility. The overall expected utility of the executive is thus greater than $1 + R$. These additional gains come at the expense of the society which is worse-off under such asymmetric information. This is an argument for government transparency, free media and the freedom of information.

External Agency: Accountability ex Ante (Aghion, Alesina, Trebbi, 2004)

How rigid should be society's control over what the government does?

Too strict control limits government's ability to act swiftly and decisively, and gives veto power to relatively small groups

Too light control does not stop erroneous policies and abuse of power

Policy Outcomes and Majority Rule

Policy outcome: $a + \mu$; status quo outcome equals 1 across the society; $a \in [-A, A]$ – quality of the policy to be implemented by government (a random variable with distribution $G(a)$)

μ – variation of individual policy outcomes across a unit continuum of agents with distribution function $F(\mu)$; $E\mu = \mu_{med}$.

M – majority rule. For the break-even agent $\mu = 1 - a$, and policy a is approved by the society whenever $1 - F(1 - a) \geq M$, or $a > 1 - F^{-1}(1 - M)$. Majority rule allows policies with quality a above the threshold $a^* = 1 - F^{-1}(1 - M)$

Optimal Majority Rule

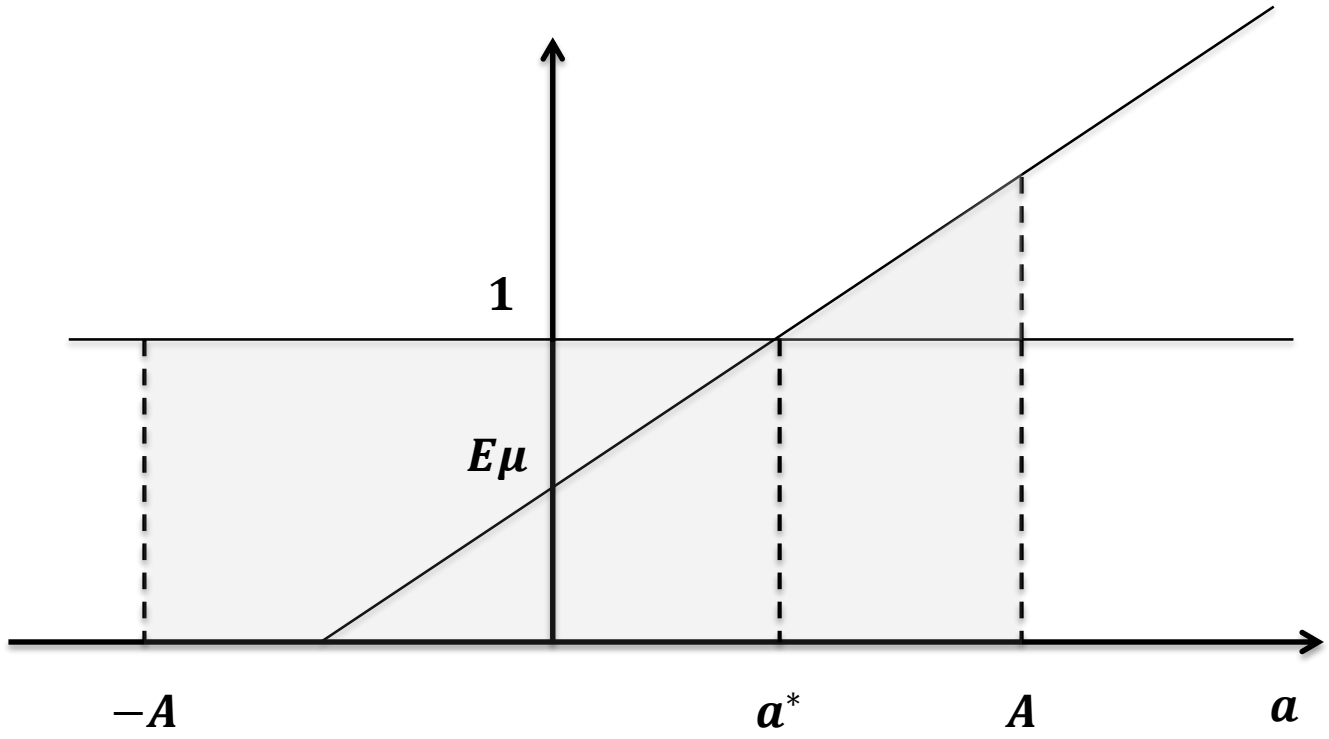
$$\max_{a^*} \left[\int_{-A}^{a^*} dG(a) + \int_{a^*}^{A} (a + E\mu) dG(a) \right]$$

Optimal threshold:

$1 = a^* + E\mu$, and hence $F^{-1}(1 - M) = 1 - a^* = E\mu$

Optimal majority rule $M^* = 1 - F(E\mu)$. If $E\mu = \mu_{med}$, then $M^* = 1/2$.

Choosing the Threshold

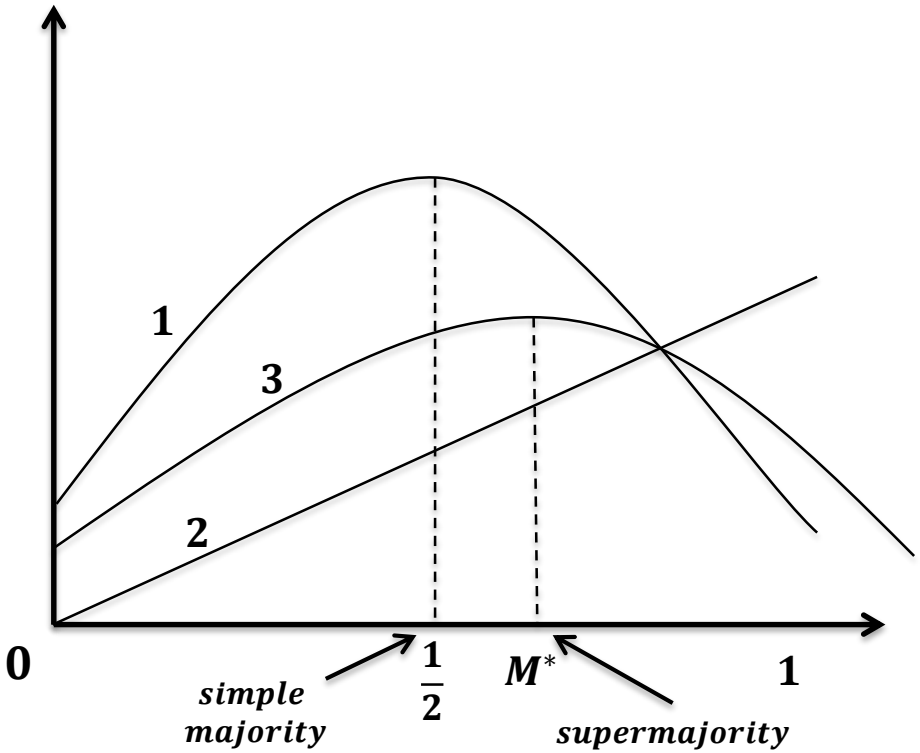


Quality of Polity

If society is skeptical of moral qualms of its politicians, it could tighten its control over government to solve the external agency problem.

- π – probability that the executive is of predatory type and wants to abuse his office powers to extract rent from society; expected social payoff: $W_{pr}(M), W'_{pr}(M) > 0$
- $1 - \pi$ – probability of benevolent type executive, who could be prone to policy errors; expected social payoff: $W_{ben}(M)$, $W'_{ben}(1/2) = 0$. Therefore $\pi W'_{pr}(1/2) + (1-\pi)W'_{ben}(1/2) > 0$, and hence the risk of a predatory executive requires extra checks and balances ("supermajority")

Calculus of supermajority



1: $W_{ben}(M)$

2: $W_{pr}(M)$

3: $\Pi \cdot W_{pr}(M) + (1 - \Pi) \cdot W_{ben}(M)$

Internal Agency: Performance Incentives in the Public Sector

Public services are non-market in their nature, and thus can rarely be properly measured. Hence the fundamental difference between private and public sectors: in the former performance incentives are usually tied to outputs (or input-output combination), whereas in the latter such incentives more often than not cannot be tied to measurable and contractible outputs of public servants.

Common solution: vertical supervision and administrative hierarchy, where a (benevolent) superior monitors the performance of her subordinates

Administrative Monitoring

Monitoring in administrative hierarchy is expected to prevent two types of opportunistic behavior by public servants – lack of efforts and abuse of office (corruption).

To these ends, performance of public servants is subjected to periodic or random inspections, and if either of these forms of misbehavior is observed, sanctions follow.

Such monitoring is costly to the government and ultimately to the society, and hence the limited oversight capacity needs to be allocated judiciously, using all available information.

Following on Complaints

Clients of public servants and high-level bureaucrats alike benefit from public servants' honesty and efforts, and hence supervisors can rely on clients' complaints as an important source of information in targeting their monitoring efforts. However such complaints-triggered monitoring could distort the incentives of public servants and inflict additional efficiency losses due to "complaint asymmetry".

Limits to Bureaucratic Efficiency (Prendergast, 2003)

There are two types of consumers: $\alpha = 1$ (deserving) and $\alpha = 0$ (undeserving) which occur with equal probabilities, and two types of resource allocation decisions that a public servant has to make: $A = 1$(allocate a unit of resource to the applicant) and $A = 0$ (deny allocation). The society gains 1 if a deserving type gets a unit of resource, or if an undeserving type is denied resource; otherwise social gains equal zero. Private gains from getting a unit of resource equal $v > 0$ irrespective of a type; the discrepancy between private and social gains points to an externality which justifies government's involvement in resource allocation.

The very same externality however limits bureaucratic efficiency.

Bureaucrat's Decisions and Monitoring Technology

A public servant investigates an application for resource and makes a decision. He is expected to decide $A = 1$ for a deserving type and $A = 0$ otherwise. By spending effort $e \geq 0$, the public servant identifies applicants' types with accuracy $p(e) > 1/2$; $p'(e) > 0$.

A supervisor of the public servant can audit a decision of her subordinate and with probability x identify applicant's true type; the cost of such audit is $c(x)$, where $c'(x) > 0, c''(x) > 0$. If the audit reveals applicant's type, the decision made by the public servant is checked and if found wrong, reversed, and the public servant is fined. No action is taken if the audit fails to reveal the true type.

Too Good to Be True

If consumers were complaining about *both* types of errors made by the public servant, i.e. deciding $A = 0$ for $\alpha = 1$ *and* deciding $A = 1$ for $\alpha = 0$, then the supervisor would audit only if a complaint is made, yielding social gains $\max_x[x - c(x)]$, and finding applicant's type with probability x^* such that $c'(x^*) = 1$. This would be much more efficient than random auditing with expected gains $\max_x[x\big(1 - p(e)\big) - c(x)]$ and the probability of success x^0 such that $c'(x^0) = 1 - p(e)$.

The agent, in his turn, would realize the likelihood of his error to be discovered increases from x^0 to x^*, and that would ensure his due diligence.

Reality Check

In reality customers would only complain if $A = 0$ for $\alpha = 1$ and stay silent if $A = 1$ for $\alpha = 0$. That would still be a good lead for the superior, but she would also have to audit cases with no complaints, as those could include situations $A = 1, \alpha = 0$.

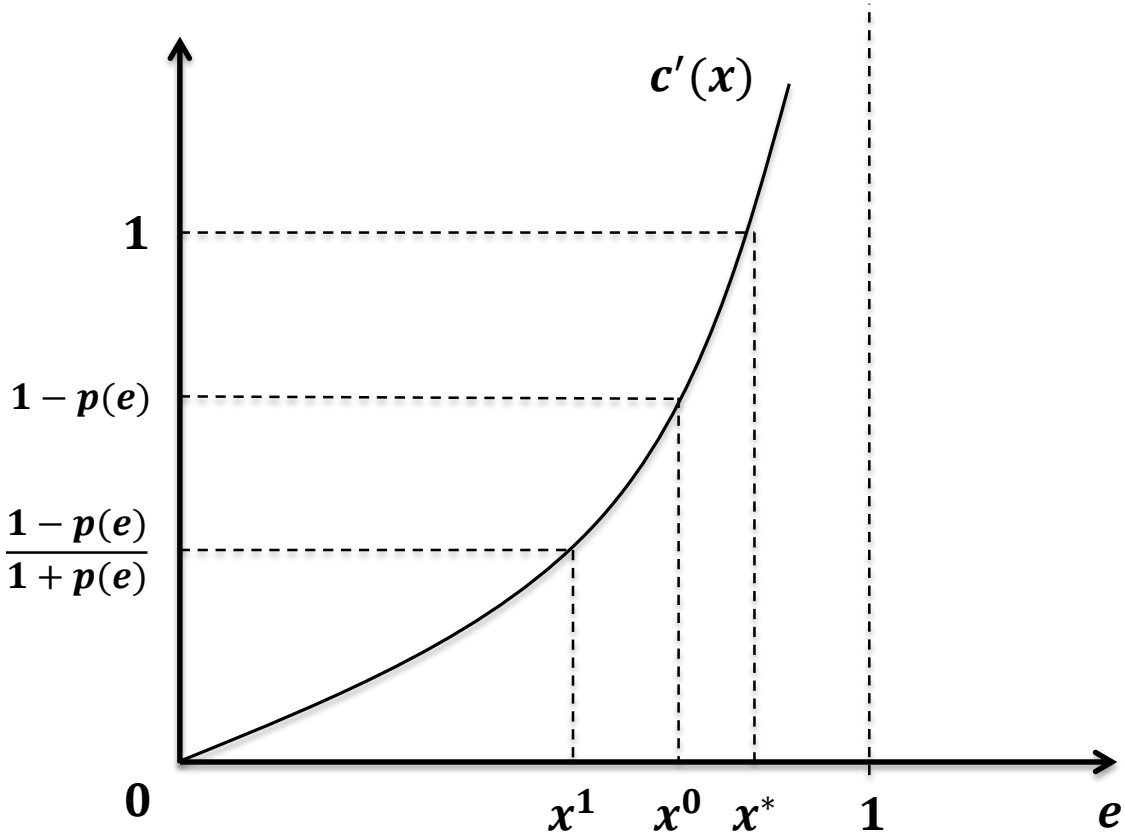
Audits triggered by complaints should still rationally be made more vigorous and successful than those with no complaints, with the likelihoods of success respectively x^* and x^1,
where $c'(x^1) = (1 - p(e))/(1 + p(e))$.

Temptation to Yield

Such rational reaction of the supervisor will however make the public servant realize that a denial of allocation is much more likely to trigger a complaint, and to prevent that from happening, the public servant could cave in to the applicant even if the available evidence suggests otherwise.

Anticipating such reaction, the superior will have to spend excessive resources on audits with no complaints, and investigate complaints less vigorously, making bureaucracy inefficient.

Audit's rates of success



Market and Government Failures

Market and government failures seem to be intertwined. The discrepancy between public and private benefits that caused an externality and required government intervention also puts limits to bureaucratic efficiency and prevents effective monitoring.

Career Concerns in Public Sector

Salaries in public sector are usually significantly lower than in private sector.

Higher compensation is traded off for an opportunity to build a career in government, or indeed in the private sector to which a successful bureaucrat can return.

Stint in government in this case could be a chance to demonstrate high abilities which would earn high salary in the private sector.

This could be a solution of the internal agency problem, providing the bureaucrat with stronger performance incentives out of career concerns.

Economics of Career Concerns (Dewatripont, Jewitt, Tirole, 1999)

Bureaucrat's talent θ and effort a are his private information which is not directly publicly observable. However talent and effort affect the observable outcome y, which is also impacted by a stochastic noise: $y = a + \theta + \varepsilon$.

Private costs of efforts to the bureaucrat (or forgone illicit income from corruption) are $c(a)$, with $c'(a) > 0, c''(a) > 0$. The society forms expectations about how diligent their public servants are: the expected level of efforts is a^*.

How to Gauge Talent

Expected efforts a^* and *observable* outcome y give an estimation of the bureaucrat's talent $E(\theta|y, a^*)$, which will be a basis for his salary in the private sector . Expectations have to be rational, i.e. actually met by the bureaucrat who maximizes his net payoff $t_0 + \delta E(\theta|y, a^*) - c(a)$ (t_0– current salary in the public sector; δ – discount coefficient).

Noise and Signal

Assuming normal distributions of talent and noise with variances respectively σ_θ^2, σ_ε^2, and taking $\delta = 1$, one has

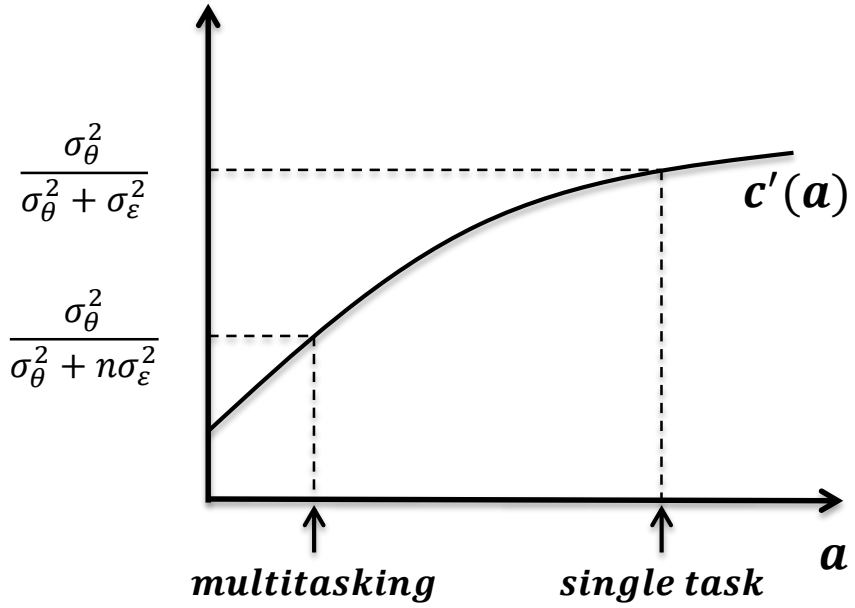
$$c'(a^*) = \frac{\sigma_\theta^2}{\sigma_\theta^2 + \sigma_\varepsilon^2}.$$

The equilibrium level of exerted efforts thus depends on the signal-to-noise ratio $\rho = \sigma_\theta / \sigma_\varepsilon$.
Here again transparency of public service strengthens performance incentives.

Agency and Mission

Multitasking adversely affects the incentives: blurred focus diminishes the signal-to-noise ratio, when noise comes from several, possibly uncorrelated, sources:

$$c'(a^*) = \frac{\sigma_\theta^2}{\sigma_\theta^2 + n\sigma_\varepsilon^2}$$



Complementarity between Effort and Talent

Effort and talent could be not just substitutes, but also complements, in which case multiple equilibria could occur.

Assuming $y = \alpha a + \beta\theta + \gamma a\theta + \varepsilon$, the expected level of efforts a^* affects the sensitivity of the output to talent: marginal returns to efforts, as perceived by the society, equal $\alpha + \gamma a^*$, and hence the expected reward of a public servant for the delivered results depends on the esteem to which the society holds its public servants at large.

Multiple equilibria

When the society expects a^* to be low (at the limit, zero), such sensitivity is low, too, and achievements of a bureaucrat would be ascribed to luck and will not lead to favorable reassessment of his talent. Hence there are no incentives for the bureaucrat to exert efforts, and the low-effort expectations are thus rational (self-fulfilled).

When high effort level a^* is expected, the assessment by the society of the bureaucrat's talent is much more sensitive to the achieved results, which creates strong performance incentives, and again, make the expectations of high a^* rational. Hence the same pubic service could function poorly or stronger, depending what the society thinks of and expects from it.

Economics of Corruption (Shleifer, Vishny, 1993)

Corruption is broadly defined as abuse of public office for private gains. Corrupt officials collect payments from their customers for services that are supposed to be free (or in excess of official fees payable to government) to expedite service delivery, provide benefits that an applicant does not qualify for, or help evade government-imposed fees, levies, and penalties.

Corruption and Competition

Corruption spreads across government and society through competition inside the government and in the private sector. If appointments to slots in governments are conditional on payments to those making appointment decisions, public servants are forced to collect bribes to pay the "going rate". If corruption confers advantages in doing business, non-corrupt entrepreneurs would be driven out of business by competition in the private sector.

Centralized or Decentralized Corruption

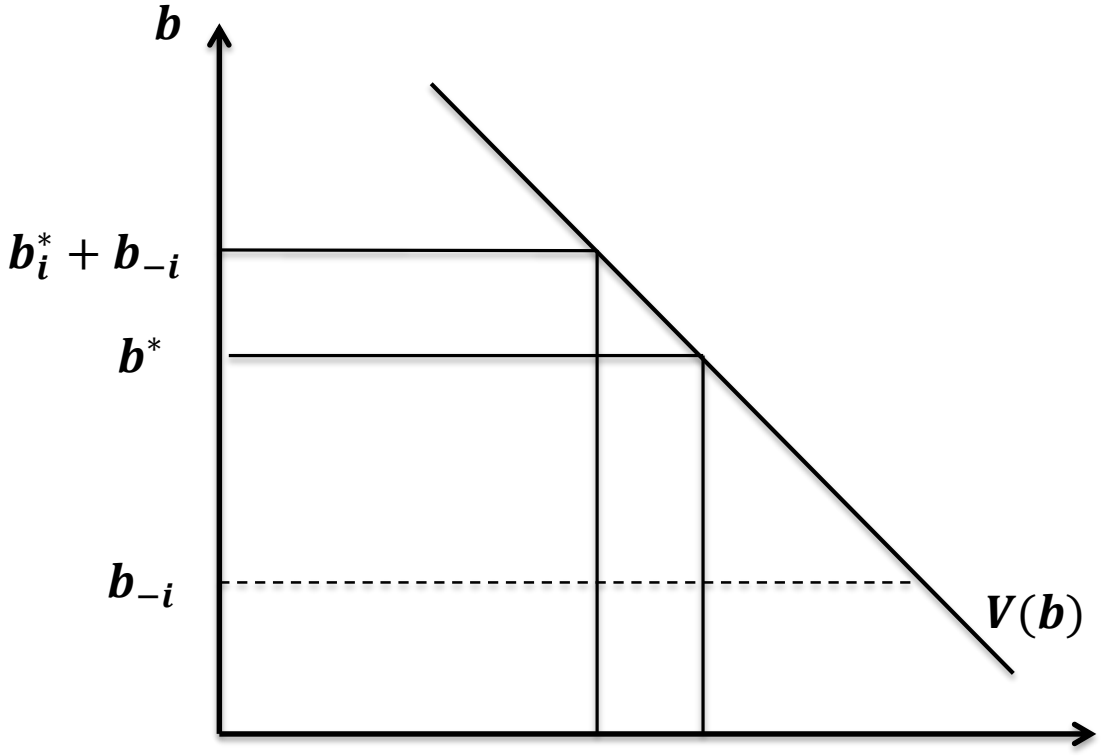
Centralized corruption is less harmful for society and private sector than decentralized one, when several corrupt officials set bribes without coordinating with each other, causing a "tragedy of the commons"-type externalities

Centralized corruption: $\max_b bV(b); b = b^*$

Decentralized corruption: $\max_{b_i} b_i V(b_i + b_{-i});\ b_i = {b_i}^*;\ {b_i}^* + b_{-i} > b^*$

Decentralized corruption often occurs in young democracies when an autocratic regime is dismantled, but the society is unable to control the bureaucracy freed from centralized control.

Tragedy of the Commons in Corruption



Advantages of "One-Stop-Shops"

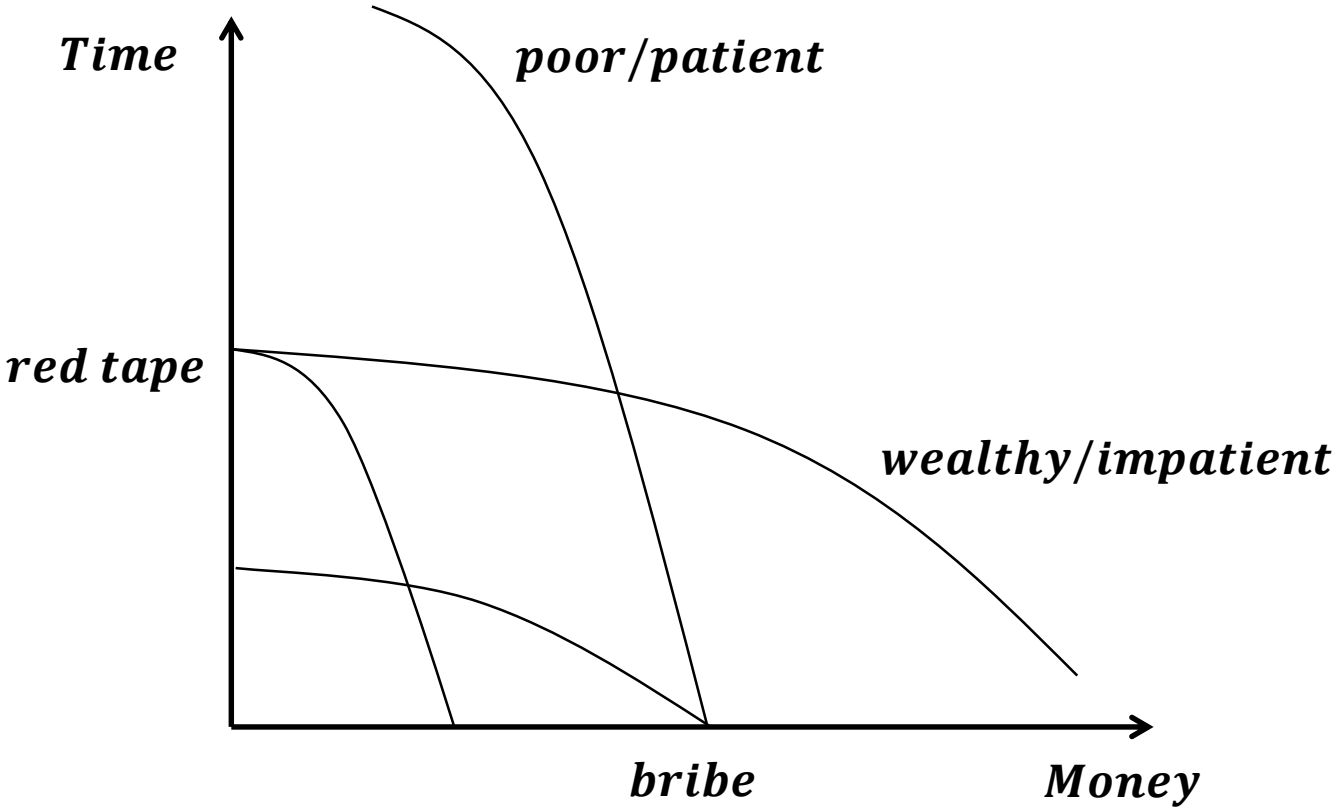
"One-Stop-Shops" are administrative practices whereby different government agencies can be accessed at the same place and time with a single application. One-stop shops are usually praised for saving applicants' time, effort, and paperwork. When public service is susceptible to corruption, another advantage of one-stop-shops is that they effectively "coordinate" corruption thus reducing its harm.

Corruption and Red Tape

"Red tape" (excessively onerous bureaucratic requirements, paperwork, and delay) goes hand-in-hand with corruption.

Red tape could be used as a screening device, resolving informational asymmetry and offering people with greater means (and higher value of time) and/or those needing a service more urgently, an opportunity to expedite the process by means of bribery.

Screening by Red Tape



Economics of Corruption Prevention

When a private individual or business suffers from corruption, the victims should be encouraged to bring complaints and granted full immunity from prosecution. This way the incentives of top administrators (presumed to be corruption-free) and grassroots agents are aligned, and controllers and prosecutors get evidence necessary to press charges against corrupt officials.

When corrupt officials and their customers collude to defraud the public, greater transparency and tougher oversight are required.

Political competition and freedom of the media are shown to be potent means to suppress corruption.