Rethinking the Foundations of Institutions

Basel WWZ
20th Anniversary Celebration
May 15, 2009

Roger B. Myerson

http://home.uchicago.edu/~rmyerson/research/basel.pdf

The Changing Scope of Economics

Xenophon's *Oeconomicus* (360 BC) considered agents' incentive problems, as part of the general Socratic study of social institutions.

Cournot (1838) remarked that political economy been redefined as study of the allocation of scarce resources.

Hayek (1945): Economists' debates about socialism miss the point: markets and other economic institutions are mechanisms for communication and control of productive activity and resources.

To extend the framework of economic analysis beyond price theory, so that markets can be compared with other economic institutions, Hurwicz (1972) studied mechanism design, incentive compatibility.

Mechanism design added *incentive constraints* to *resource constraints* in our definition of the economic problem.

Social mechanisms for communication and control must give people incentives to share private information (honesty, *adverse selection*), and to exert hidden efforts (compliance, *moral hazard*).

What was Missing in the Socialism Debate?

Hayek (1945) said the essential problem is in the communication of people's private information, as in adverse-selection models.

But among Tirole's (2006) basic moral-hazard and adverse-selection models of corporate finance, it is the moral-hazard model that easily shows problems of socialism.

Moral hazard: Project's probability of success depends on manager's hidden action (work, shirk).

Appropriate effort can be motivated only if manager shares profits of success (*moral-hazard rents*) or has a large stake to lose in failure.

Adverse selection: Project's probability of success depends on manager's hidden type (has real opportunity, or contrived plan).

Monopolistic allocation of capital could actually reduce incentives for managers to pretend to have good investment opportunities.

Collectivizing property can ameliorate adverse-selection problems, but it can exacerbate moral-hazard problems.

A Simple Moral-Hazard Model of Corporate Finance

A project's probability of success depends on agent's hidden effort.
To deter abuse of power, agent must have stakes to lose in failure.
Under socialist egalitarianism, who has stakes commensurate with the temptations in managing industrial concentrations of capital?

p_G = P(success if good effort) = 1/2, p_B = P(success if agent acts badly) = 1/4,
K = (capital input) = 100, R = (returns if success) = 240,
B = (agent's private benefit of bad action) = 30. So $p_G R > K > p_B R + B$.
Given agent's collateral $A < 60 = Bp_G/(p_G - p_B)$ [*socialist egalitarianism*],

choose w = (net wage if success) $\geq -A$
to maximize expected social profit $V = p_G(R - w) + (1 - p_G)A - K$
subject to: $p_G w - (1 - p_G)A \geq 0$, [*participation constraint*]
$p_G w - (1 - p_G)A \geq B + p_B w - (1 - p_B)A$. [*moral-hazard constraint*]

Solution: $w = B/(p_G - p_B) - A = 120 - A$,
and so $V = p_G R - K + A - Bp_G/(p_G - p_B) = A - 40$.
V>0 is not feasible unless the agent has collateral A>40.
The agent gets **moral-hazard rents** worth $p_G w - (1 - p_G)A = 60 - A$.
(Allowing punishment of agent would reduce his rent, but would still require substantial collateral A>20 for V>0.)

The Analogous Adverse-Selection Model

A project's probability of success depends on the agent's hidden type, which may be *good* or *bad*.

Socialist monopoly of capital can facilitate honest communication, as bad agents cannot gain from imitating good if nobody gets profits.

Given $p_G R > K > p_B R$ [*E(Return| Good type) > Kapital > E(Return| Bad)*]

Choose (q_G, q_B, w_G, w_B) to maximize expected social profit:

$$V = \alpha\, q_G[p_G(R - w_G) + (1-p_G)A - K] + (1-\alpha)q_B[p_B(R - w_B) + (1-p_B)A - K]$$

subject to: $wG \geq -A$, $wB \geq -A$, $0 \leq q_G \leq 1$, $0 \leq q_B \leq 1$, [*resources*]

$q_G[p_G w_G - (1-p_G)A] \geq 0$, $q_B[p_B w_B - (1-p_B)A] \geq 0$, [*participation*]

$q_G[p_G w_G - (1-p_G)A] \geq q_B[p_G w_B - (1-p_G)A]$, [*G-selection*]

$q_B[p_B w_B - (1-p_B)A] \geq q_G[p_B w_G - (1-p_B)A]$. [*B-selection*]

In socialism, the ideal $q_G=1$, $q_B=0$ is feasible even if $A=0$, with $w_G=0=w_B$.

In capitalism, competitive lending implies $V=0$ in equilibrium, but then the ideal $q_G=1$, $q_B=0$ is not feasible if agent's collateral A is small.

Development: from Moral Hazard to Adverse Selection

Moral-hazard problems are fundamental in any institution.
Any institution has officials whose job is to enforce institutional rules.
Motivating officials to enforce the rules is a moral-hazard problem.

In post-conflict nation-building, systems of control are scarce, urgent priorities: first military, then law-enforcement, local administration, and public finance (James Dobbins, *Nation-Building*, 2007).
The first focus in development must be on building the state's administrative capacity (Ashraf Ghani, *Fixing Failed States*, 2008).

Economic development may be seen as a process of moving from moral-hazard problems to adverse-selection problems.
In poor countries, potentially valuable investment opportunities are everywhere, but investments cannot be controlled or protected.
With development, investment opportunities become less common, but still may be much claimed by entrepreneurs.

Foundations of the State: Efficiency Wages and Patronage

Government is a network of agents with broad delegated powers, imperfectly monitored.
Government agents (governors) could profit from abusing power, and so they must expect greater long-run rewards from good service.
(Candidates would be willing to pay for high office.)

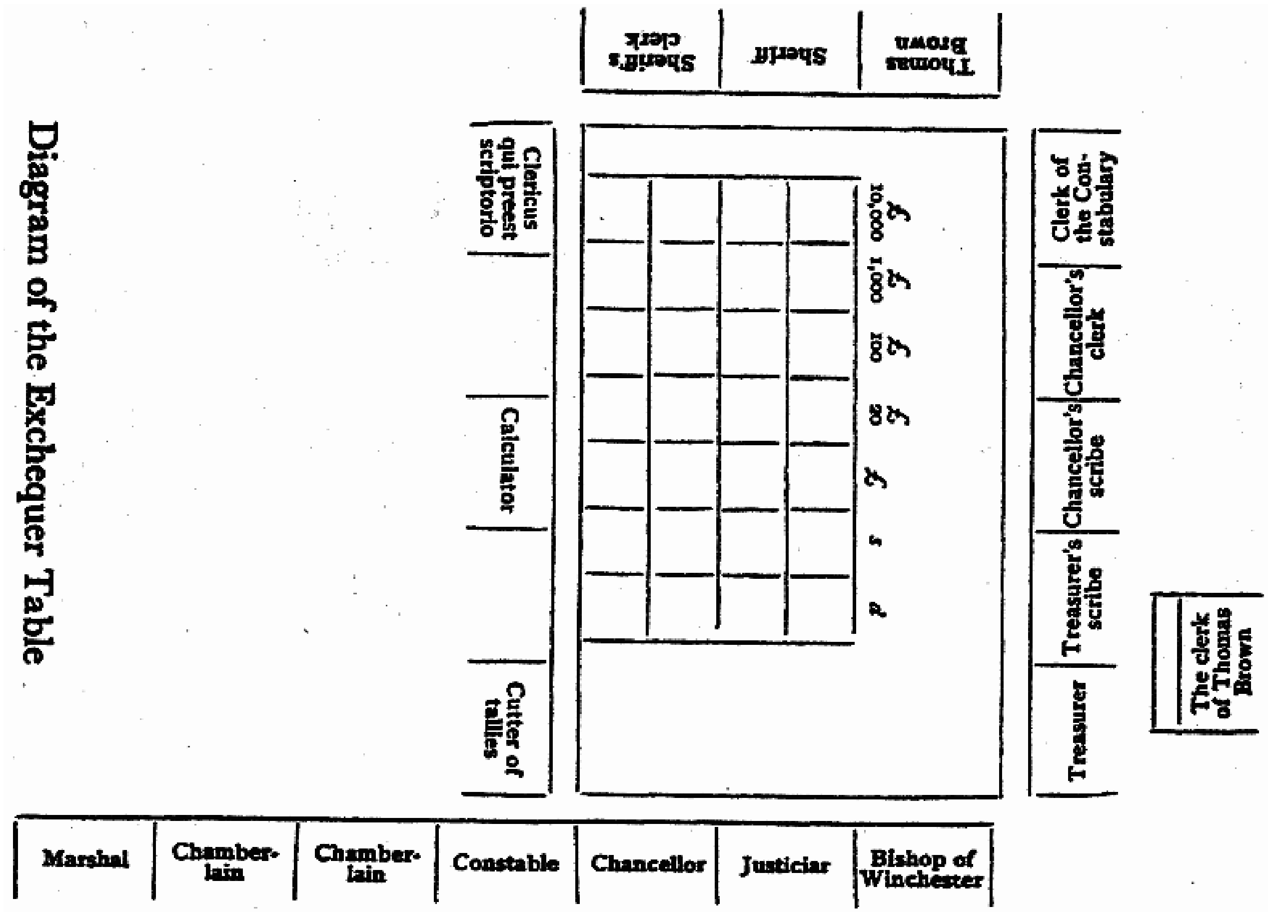
Agents' rewards depend on judgments of their superiors in the network, and so incentives ultimately depend on top leaders.
Promises of back-loaded rewards become a debt owed by the state, which leaders could be tempted to repudiate.
(When a high official is dismissed, his office could be re-sold.)

So courtiers must monitor the distribution of offices and rewards.
The primary imperative in any political organization is to build and maintain a network of supporters who trust their leadership.

(Becker-Stigler, *J Legal Stud* 1974. Alchian-Demsetz, *AER* 1972. My "Moral hazard in high office.")

Richard FitzNigel, Dialogue of the Exchequer (c. 1180)

Why is the Exchequer so called? Because the table resembles a checker board. Moreover, just as a battle between two sides takes place on a checker board, so here too a struggle takes place, and battle is joined chiefly between two persons, namely the Treasurer and the Sheriff who sits to render account, while the other officials sit by to watch and judge the proceedings.



Xenophon's *Education of Cyrus*: Foundations of the State in Captains' Trust of Their Leader

Cyrus established the Persian Empire on one essential quality of leadership: a reputation for generously rewarding good service.

Reputational equilibrium: Cyrus got benefits of power as long as he acted according to his reputation.
(Did he really love justice, or the reputation's benefits?)

To compete for power, a leader needs active support of many people (captains), motivated by expectation of future rewards of if they win.

But a leader's promises may be doubted if nothing would constrain him to fulfill past promises when his rivals have been defeated.

A strong competitive leader needs constitutional constraints, from a court or council where supporters can collectively judge his treatment of them.
(So cheating one, he would lose trust of all.)

Feudal oath of *aid and counsel*: support lord in battle, attend his court.
(My "Autocrat's credibility problem," *APSR*, 2008.)

The state's captains and governors, like a firm's investors and managers, all need guarantees of future rewards (from institutional identity, equity).

Xenophon's *Education of Cyrus* (from book 1, chapter 3)

When at dinner with his daughter and [her son] Cyrus, Astyages [King of Media] wished the boy to dine as pleasantly as possible. He thus put before him fancy side dishes and all sorts of sauces and meats.

Astyages said, "Does it not seem to you that this dinner is much finer than among the Persians?"

Cyrus answered, "No, grandfather, for the road to satisfaction is more simple and direct among us [Persians] than among you [Medes]."

Astyages said, "Feast at least upon these meats, so that you may go home a vigorous youth."

Cyrus said, "Are you giving me all this meat, grandfather, to use however I want?" "Yes, my child, by Zeus I am," Astyages said.

Then Cyrus, taking the meat, distributed it to his grandfather's servants and said to each, "This is for you, because you teach me to ride with enthusiasm; for you, because you gave me a javelin; for you, because you serve my grandfather nobly; for you, because you honor my mother."

He proceeded like this until he had distributed all the meat that he received.

(Cyrus later usurped the throne of Media.)

L. Paul Bremer's Theory of the State

Bremer's theory of democracy: primacy of the constitution, professionalization of the security forces.

"I've got three 'red lines': We must leave behind a professional uncorrupt police force, attentive to human rights; we must not have an army involved in internal affairs, and no militia; we should pass sovereignty to an Iraqi government elected on the basis of a constitution." (Bremer, Year in Iraq, 2006.)

Which comes first, constitutional laws or elected leaders? Xenophon and American history support Sistani against Bremer.

The terms of leaders' reputations for reliably allocating patronage may be the fundamental law (the leader's personal constitution).

Asking Iraqi leaders to endorse policies and write a constitution, but giving them few opportunities for patronage.

Training police and soldiers to obey civilian constitutional authority before any civilian constitutional authority existed.

Cultivating Democratic Leadership

Democratic competition should limit political profits (corruption), but it can fail if nobody has a reputation for good governance.

A leader becomes committed to democracy when his violating democratic norms would shock his supporters.

Successful democracy requires many leaders with good reputations for serving the public, not just rewarding supporters.

Political decentralization creates more opportunities to build such good reputations. A local leader who exceeds expectations can rise.

Contrast Bremer's regime in Iraq 2003, and Karzai's centralized presidential democracy in Afghanistan 2004. (My *QJPS*, 2006.)

Building infrastructure may be less important than increasing the supply of leaders whom people can trust with public funds, by distributing local responsibility with transparent accountability.

National leaders have incentive to centralize, to reduce competition. Michel's "iron law of oligarchy." (Russia 2004.)

Vulnerable Financial Institutions

Moral hazard is an essential concern in a financial system that allocates vast amounts of other people's wealth.

Moral-hazard rents make trusted bankers a privileged elite, but in a regulatory framework where privileges depend on good performance.

Back-loaded moral-hazard rents: Trust-worthiness of agents today depends on expectation of their benefiting more from trust in future.

So trust is a coordination game with the future (has arbitrary equilibria).

To explain (non-monetary) effects of debtors' losses, Bernanke (1995) appealed to agency-theoretic requirements of collateral for transactions.

Largest debtors in crash are trusted financial intermediaries, whose loss of functional status could generate indirect losses to others.

So a general loss of intermediaries' wealth could cause larger macroeconomic losses. (Models of macro moral-hazard multipliers?)

When we see lost reputations as key, how do we rebuild trust?

Grants to restore (rich financiers') capital.

Regulatory reforms to more credibly deter irresponsible behavior.