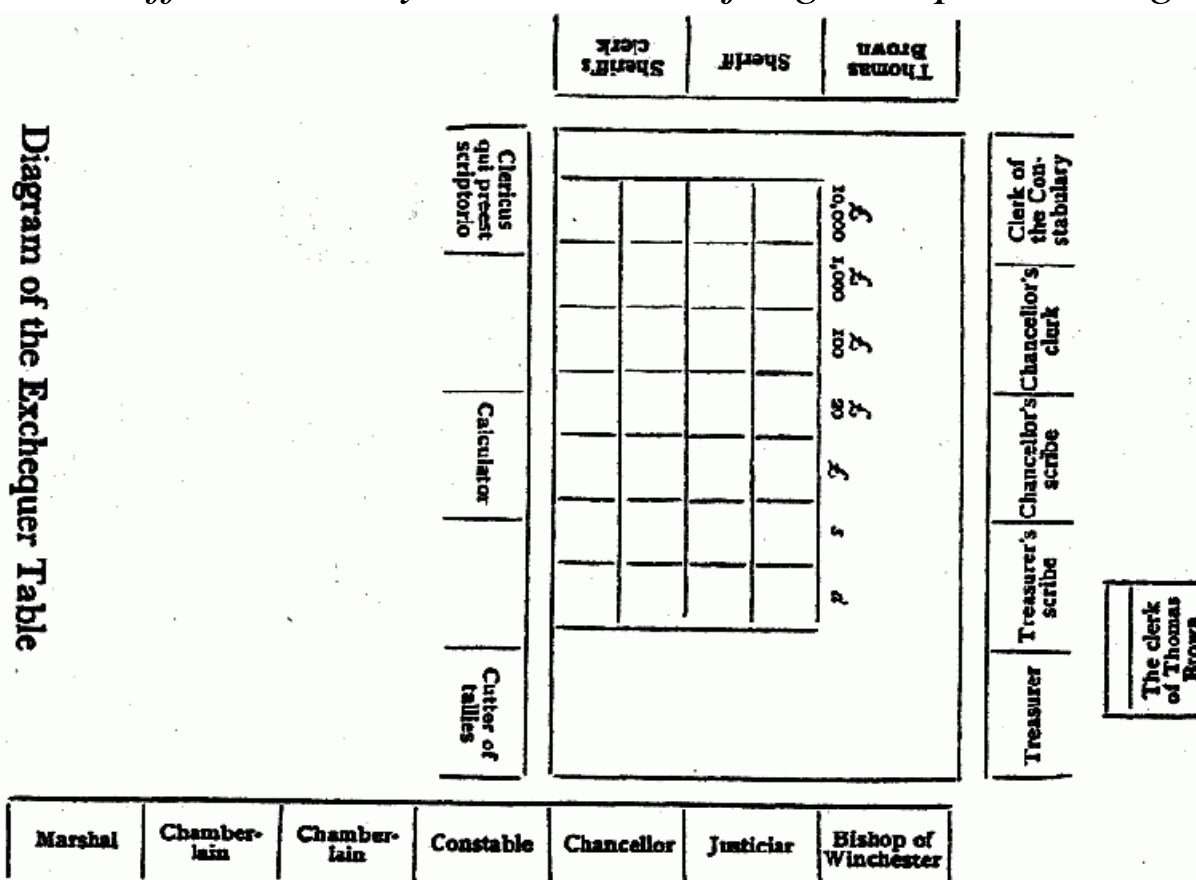


Court of the Exchequer: vital institution of English government

Richard FitzNigel's 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 [Governor] who sits to render account, while the other officials sit by to watch and judge the proceedings.



Captains' trust of their leader in contests for power

My "Autocrat's credibility problem" (APSR 2008) focuses on a leader's need for supporters (captains) to help him compete for power in establishing his state. Initial supporters must be motivated by expectation of future rewards if they win.

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

A strong competitive leader needs some institutional court where his promises to supporters can be credibly enforced.

Supporters can constitute such a court when they share group identity and norms so that, if he cheated any one of them, then he would lose the trust of all.

Contrast *absolutism* where each supporter has bilateral relationship with prince; *weak court* where they communicate but cannot cause downfall.

Main result: In negotiation-proof equilibria of sequential contests for power, a contender cannot recruit supporters without a court where they can depose him.

Medieval oath of "aid and counsel."

Courtiers judge the prince as they serve him.

The state's captains and governors are like a firm's investors and managers: all need some institutional protection for their promised future rewards.

Distribution of moral-hazard rents and patronage

Moral-hazard problems are fundamental in any institution.

Motivating officials to enforce institutional rules is a moral-hazard problem.

Government is a network of agents with broad 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 such highly rewarded offices

Turnover gives away costly moral-hazard rents, if candidates can't pay full value.

(Becker-Stigler, *J Legal Studies* 1974.)

Agents' rewards depend on judgments of their superiors in the network, and so incentives ultimately depend on top leaders. (Alchian-Demsetz, *AER* 1972.)

Promises of back-loaded rewards become a debt owed by the state,

which leaders could be tempted to repudiate by falsely finding fault.

When a high official is dismissed, his valuable office can be re-sold.

To commit leaders, courtiers must monitor the distribution of offices and rewards.

Any organization must promise performance-contingent rewards to its agents, who must trust the organization to implement the terms of these debts appropriately.

*Costs of maintaining this circle of trust may cause organizational officials to become an entrenched privileged elite. (My *Econometrica* 2012?)*

The arc of the moral universe is long, but it tends toward justice

Constitutional constraints are not the fragile creation of modern democrats.

To recruit the support that is needed both to win power and to wield it,
a leader must be credibly constrained to keep his promises to his supporters.

They need a forum for communicating grievances against their leader, and they need
a sense of group identity so that they'd all react if any one of them were cheated.

Participation in court may be required, as well as support in battle ("aid & counsel").

The patterns of behavior that a leader must maintain to keep his supporters' trust may
be regarded as an informal *personal constitution* for the leader.

This personal constitution requires the leader to appropriately reward supporters, but
other forms of behavior may be required.

A leader may fear to violate a formal constitution when his political relationships
were developed in its context, so that violating it would shock his supporters.

So constitutional democracy may be based on supporters' fragile trust of their leader.

But a new constitution cannot make leaders violate their personal constitutions.

In these models, we see a force towards both inequality (moral-hazard rents) and
justice (appropriate judgment) as equally fundamental and essentially linked.

Constraints of law in the allocation of elite privileges are essential fundamentals in
the institutions on which we all rely.

A model of contests for power

[Ex: $R=90$, $\lambda=0.2$, $s=1.5$, $c=5$, $\delta=0.05$]

On an island, the winner of the most recent battle is the ruler and gets income R .

Battles occur when new challengers arrive, at a Poisson rate λ .

(In any time interval ε , $P(\text{challenger arrives}) = 1 - e^{-\varepsilon\lambda} \approx \varepsilon\lambda$ if $\varepsilon \approx 0$.)

A leader needs support from captains to have any chance of winning a battle:

$\Pr(\text{leader with } n \text{ supporters wins if rival has } m) = p(n|m) = n^s / (n^s + m^s)$.

This is a standard contest success function with parameter $s \geq 1$.

A captain's cost of supporting a leader in battle is c .

Leaders and captains are risk neutral and have discount rate δ .

Consider a leader with n supporters, expecting all rivals to have m supporters.

If leader promises income y to each supporter then, when there is no challenger,

a supporter's expected discounted payoff is $U(n,y|m) = (y - \lambda c) / [\delta + \lambda - \lambda p(n|m)]$.

For the captains to rationally support in battle, $p(n|m) U(n,y|m) - c \geq 0$.

Lowest y satisfying this participation constraint is $Y(n|m) = (\delta + \lambda)c / p(n|m)$.

The leader's expected discounted payoff is:

$V(n,y|m) = (R - ny) / [\delta + \lambda - \lambda p(n|m)]$ when he rules without challenge,

$W(n,y|m) = p(n|m)V(n,y|m)$ on the eve of battle.

With optimal wage scales, the leader gets $v(n|m) = V(n, Y(n|m)|m)$ in peacetime,

$w(n|m) = W(n, Y(n|m)|m)$ on eve of battle.

Forces that can be credibly recruited under different types of regimes

An absolute leader can cheat anyone without others reacting (so y independent of n).

Against m , a force of n captains is *feasible for an absolute leader* iff there is an income y such that $y \geq Y(n|m)$ and $V(n,y|m) \geq V(k,y|m) \forall k \leq n$.

Fact. If n is feasible for an absolute leader with incomes y then there exists $k > n$ such that $v(k|m) > V(n,y|m)$ and $w(k|m) > V(n,y|m)$.

An absolute leader could always benefit from committing to maintain a larger force.

When captains (courtiers) communicate at the leader's court, an unjustified dismissal of one captain could cause all others to lose trust of the leader.

Against m , a force size n is *feasible with a weak court* iff $v(n|m) \geq v(0|m) = R/(\delta + \lambda)$.

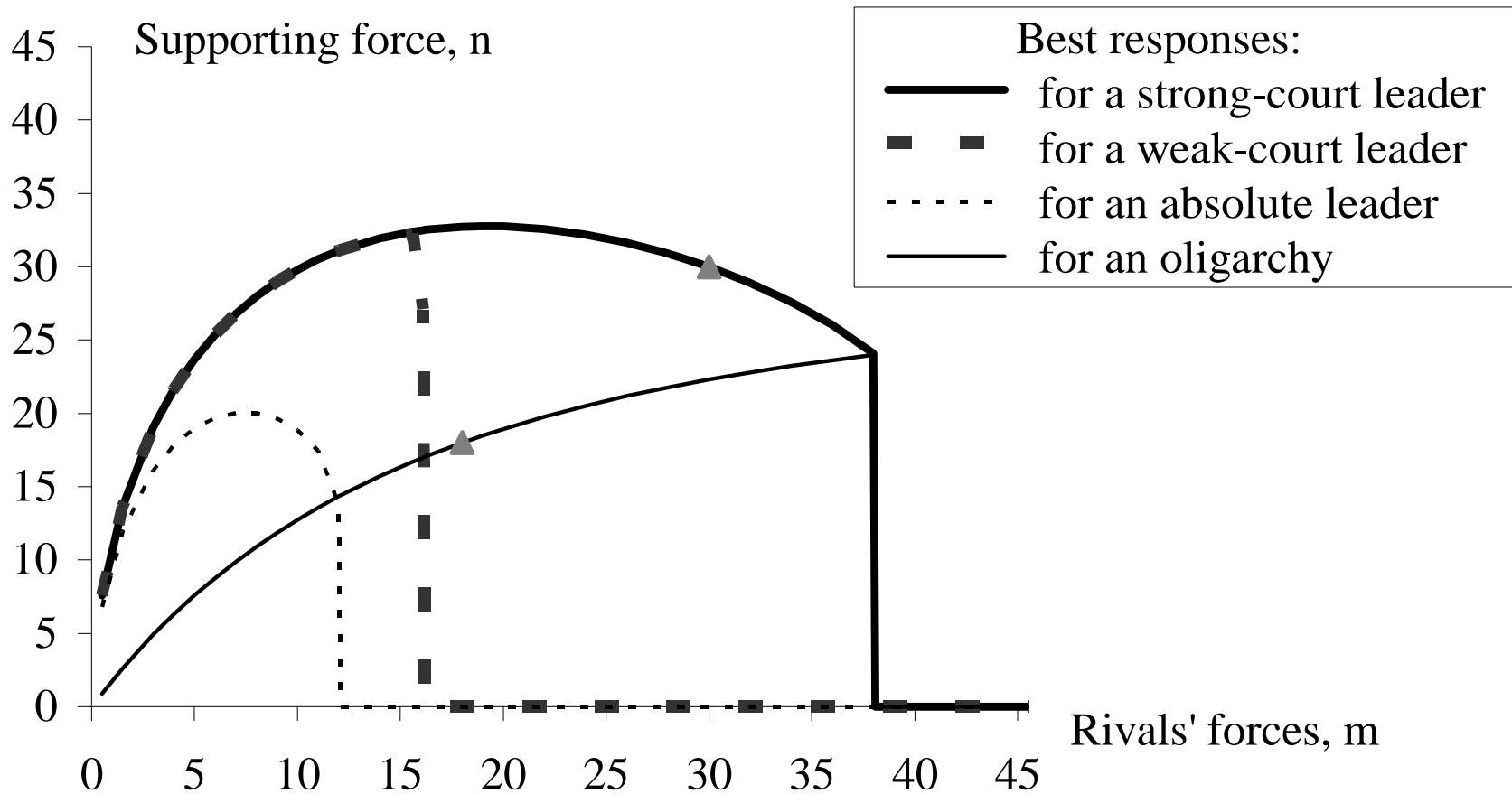
Fact. If m is weak-court feasible against m , then some $n > m$ yields $w(n|m) > w(m|m)$.

In a strong court, loss of confidence at court could stimulate challenges and cause the leader's downfall. Against m , n is *feasible with a strong court* iff $v(n|m) \geq 0$.

A force m is a *negotiation-proof equilibrium* iff $w(m|m) = \max_{n \geq 0} w(n|m)$, so any new leader before the first battle would want the same force size m .

Fact. If m is a negotiation-proof equilibrium, then no positive force $n > 0$ is feasible against m for an absolute leader or a leader with only a weak court.

A leader needs a strong court to recruit the optimal force m in this equilibrium.



Example: Optimal supporting forces for different regimes against anticipated rival forces, when $R=90$, $\delta=0.05$, $\lambda=0.2$, $c=5$, and $s=1.5$.

A leader wants his force n to maximize $w(n|m)$ over all n feasible for him. (In an oligarchy, the optimal force n would maximize $w(n|m)/n$.)

A related model of institutions, based on games with multiple equilibria.

How can an incumbent leader rule without support of his captains between battles?
Imagine that the island principality is inhabited by peasants who are randomly matched each day to play rival-claimants games with $r > 0$, $\kappa > 0$:

	Player 2 claims	Player 2 defers
Player 1 claims	$-\kappa, -\kappa$	$r, 0$
Player 1 defers	$0, r$	$0, 0$

There are three equilibria: *(1 claims, 2 defers) yielding payoffs (r,0), (1 defers, 2 claims) yielding payoffs (0,r), (each randomly claims with probability $r/(\kappa+r)$) yielding with payoffs (0,0).*

Suppose that the established ruler can designate either peasant, and then they will focus on the equilibrium in which the designated player claims.

Common recognition of the ruler's focal authority can give force to such rulings. No outside force is needed. The ruler may charge up to $\$r$ for such claiming rights. The only role of captains is to win battles when challengers arrive, because it is assumed that peasants always recognize as ruler the leader whose army has won the most recent battle.

We only need that everybody recognizes what is a battle and who is its winner.

This model, with its multiplicity of equilibria, can sustain many political institutions.

The people neither deliberate nor govern except through their representatives and authorities established by this Constitution. Any armed force or meeting of person assuming the rights of the people and petitioning in their name, commits the crime of sedition. This Constitution shall rule even when its observance is interrupted by acts of force against the institutional order and the democratic system. These acts shall be irreparably null.

Sections 22 and 36 of the Constitution of the Argentine Nation.