18. Bureaucracy

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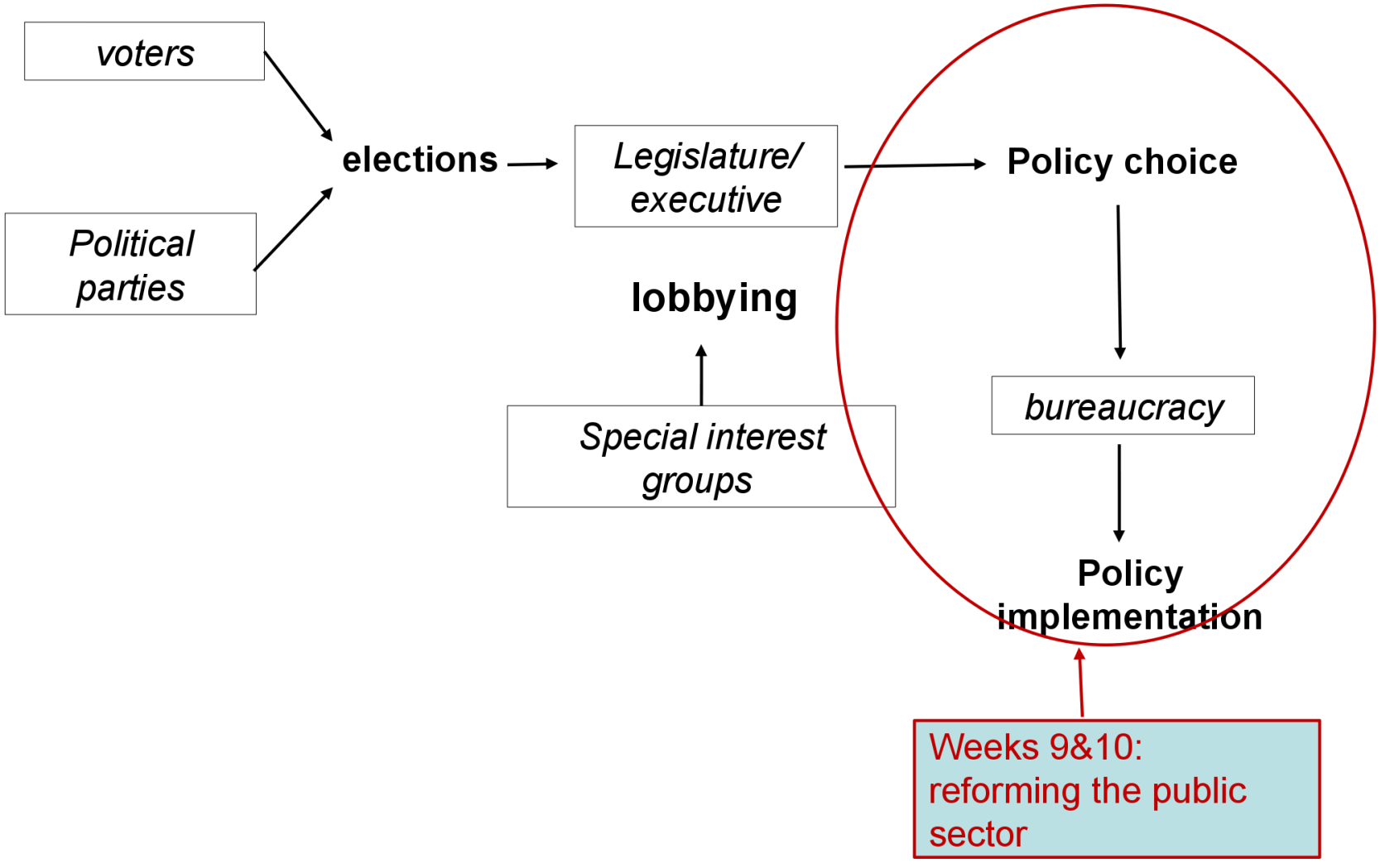
Fiscal Policy and Inequality

How is economic policy made?



Two Views of Bureaucracy (Hood 1995)

- **Progressive Public Administration (PPA)**:
  - **Bureaucrats are honest**: public provision is less corrupt than private contracting.
  - **Bureaucrats are competent**: governments can select able job applicants.
  - **Bureaucrats are self-motivated**: performance pay (PP) not needed
- **New Public Management (NPM)**: public sector agencies are similar to private sector firms.
  - **Bureaucrats are corruptible**: need internal markets, competition between providers, outsourcing
  - **Bureaucrats are not necessarily competent**: need outsourcing, or systems/incentives to select good applicants
  - **Bureaucrats are lazy**: need performance measurement and performance pay

New Public Management Techniques

- Individual incentives: performance/merit pay
- Performance measurement and competition between suppliers in education and health, local government.
- Outsourcing / contracting out of public services / privatization

Performance Pay

- Payment on quantitative performance indicators
  - Used primarily in the private sector
  - e.g. sales commissions, "piece-rate" payment in agriculture
  - In UK's National Health Service, Quality and Outcomes Framework for physicians is based on a number of quantitative indicators of performance.
- Merit pay:
  - payment on the basis of subjective evaluations of individual performance, when performance cannot be easily quantitatively and objectively measured
  - In education, most PP schemes are merit pay.
- Team Performance Pay:
  - rewards teamwork/complementarities, but causes free rider problems.

Politician Pay in Singapore

Principles for Determining Ministerial Salaries

4 The current framework is built on three key salary principles:

(a) Salaries must be competitive so that people of the right calibre are not deterred from stepping forward to lead the country;

(b) The ethos of political service entails making sacrifices and hence there should be a discount in the pay formula; and

(c) There should be a "clean wage" with no hidden benefits.

The salaries should also be linked to the individual performance of political appointment holders, and the socio-economic progress of Singapore Citizens.

https://www.gov.sg/~/sgpcmedia/media_releases/pmo-psd/press_release/P-20180301-1/attachment/Annex%20B%202017%20Review%20Committee%20Report.pdf

Politician Pay in Singapore

- Baseline salary indexed to 60% of median salary/wage income of top 1000 Singaporean citizens.

Variable Components	
Annual Variable Component (AVC)	Mid-year and year-end payments paid to civil servants based on Singapore's economic performance. As with current civil service practice, the AVC ranges from 0 to 1.5 months. A typical AVC is 1 month. In years of exceptional economic performance, a one-off Special Variable Payment can also be made.
Performance Bonus	Varies with individual performance and is determined by PM. It ranges from 0 to 6 months and good performers will typically get 3 months.
National Bonus	Based on four socio-economic indicators with equal weights. No bonus is paid if the minimum levels of achievement for the indicators are not met. A bonus of 3 months will be paid if the targets for the four indicators are met. A maximum bonus of 6 months will be paid if targets are far exceeded[2].

Singapore: National Bonus

10 The current National Bonus framework comprises four socio-economic indicators, namely Real Median Income Growth Rate for Singapore Citizens, Real Growth Rate of the Lowest 20th Percentile Income for Singapore Citizens, Unemployment Rate of Singapore Citizens and Real GDP Growth Rate.

Payout Level	Real Median Income Growth Rate for Singapore Citizens	Real Growth Rate of Lowest 20th Percentile Income for Singapore Citizens	Unemployment Rate of Singapore Citizens	Real GDP Growth Rate
Targets				
0%	<0.5%	<0.5%	5% and above	<2%
50%	0.5% - <2%	0.5% - <2%	4.5% - <5%	2% - <3%
100%	2% - <3%	2% - <3%	4% - <4.5%	3% - <5%
150%	3% - <4%	3% - <4%	3.5% - <4%	5% - <7%
200%	4% and above	4% and above	<3.5%	7% and above

Performance Pay: Theory

- Theoretical perspective is principal-agent theory (employer=principal, employee=agent)
- Assumptions:
  - performance ("output") related to employee effort and ability
  - effort is costly
  - effort and ability not easily observed by the employer
  - output is observable
- In this setting, two main effects of PP (payment conditioned on output):
  - Motivation: an employee of a given ability will work harder
  - Sorting: jobs with PP will become relatively more attractive to higher-ability candidates

Performance Pay: Theory 2

- Possible downsides of PRP:
  - Rewards **measurable** actions rather than **important** actions.
    - Negative spillover effects on unmeasurable activities
    - "gaming" by the agent, especially if PP is based on achieving certain thresholds
  - Might "crowd out" intrinsic motivation:
    - Intrinsic motivation: people are motivated by goals other than money and putting a "price" on effort may actually degrade this motivation
  - Can be costly If PP is introduced without cutting baseline wages:
    - This is likely in the public sector, where unions are stronger
    - the cost of PRP may outweigh any productivity improvements

Intrinsic Motivation

- Titmuss (1970) argued that a system of free blood donation to the stateled to superior outcomes (more security of supply, fewer problems with disease) than the system at the time in the U.S.A. of paid blood donation

- Intrinsic motivation "rediscovered" by economists (see survey by Gneezy et. al. 2011):
  - Several careful lab and field experiments show that financial incentives can "crowd out" intrinsic motivation
  - financial incentives only work if they are large; but then may not be cost-effective

Are public employees self-motivated?

- Do they have a high level of intrinsic motivation, or do they choose the public sector because they prefer a "quiet life"?
- Answer not (yet) known, but Gregg et. al. (2011) find that:
  - individuals in the non-profit sector are significantly more likely to donate their labour, measured by unpaid overtime, than those in the for-profit sector
  - Also, some evidence that individuals differentially select into the non-profit and for-profit sectors according to whether they donate their labour.

Performance Pay: Evidence

- Ray et al (2014):
  - A review of the evidence on the impact, effectiveness and value for money of PP in the public sector
- Evidence is mixed:
  - In education, positive effects (and indeed scheme design) tend to be based on students' performance in standardised tests
  - In health, treatment targets in primary care and preventive services have shown the most improvement as a result of PP.
- Where positive effects have been found, effect sizes are often small and may be short-lived

Maskin and Tirole (2004)

- This paper studies three modes of social decision-making:
  1. Direct democracy: The public decides through referendum
  2. Representative democracy: A politician subject to reelection decides
  3. Judicial power: An unaccountable judge decides.
- This paper dissolves logic of political philosophy down to a couple of equations.

Setup

- Two periods, 1 and 2
- Two possible government actions, a and b
- Action a is "popular": It is the correct action with probability $p > 1/2$
  - With probability $1 - p$, action b is correct
  - A lower p (closer to $1/2$) means it is more technical and less familiar
- Society gets a payoff of 1 for each period that the correct action is implemented.
- Under direct democracy, voters choose a in both periods.

Government Officials

- Under representative democracy or judicial power, an official chooses the action.
- We assume the official *knows* which action is correct (that is, preferred by society).
- He prefers the correct action with probability $\pi > 1/2$
  - He prefers the incorrect action with probability $1 - \pi$
- The official gets utility R from being in office, and utility G from selecting his preferred action.
- Utility from the first period:

$$U = \begin{cases} R + G & \text{(makes preferred choice)} \\ R & \text{(makes non-preferred choice)} \end{cases}$$

- In the second period, he would always chooses his preferred action, so he gets $R + G$ if retained for a second period, discounted by $\beta < 1$.

Judicial Power versus Representative Democracy

- Under judicial power, official always chooses preferred action.
- In representative democracy, official removed for choosing b.
- When will the official pander to voters?
  - That is, go along with the popular action a even if he prefers b
- He compares the payoff to choosing his disfavored action now, plus the payoff next period

$$R + \beta(R + G)$$

to the the payoff from choosing his preferred action now and being removed from office:

$$R + G$$

- That is, pandering occurs when

$$R + \beta(R + G) > R + G$$
$$\beta(R + G) > G$$

Expected welfare by system with pandering

- Under direct democracy (DD), the voters always choose a and the expected welfare is

$$W_{DD} = p + p = 2p$$

- Under judicial power (JP), the judge always chooses his preferred action and the expected welfare is

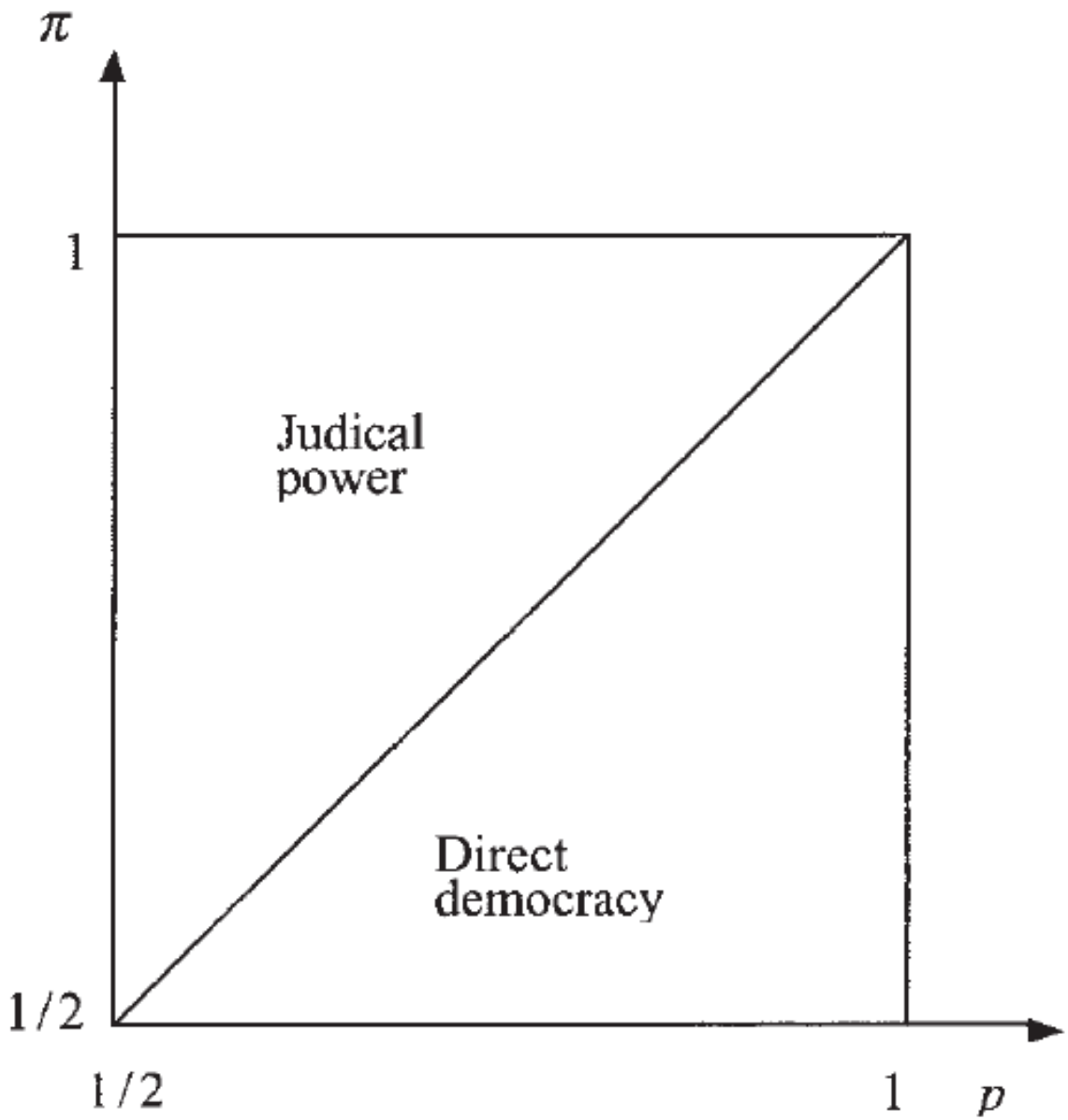
$$W_{JP} = \pi + \pi = 2\pi$$

- Under representative democracy (RD) with pandering ($\beta(R+G) > G$), the official chooses the popular action in the first period and his preferred action in the second period. The expected welfare for voters is

$$W_{RD} = p + \pi$$

- Note that RD is strictly dominated by either DD or JP, depending on whether p or π is higher.

The choice between JP and DD under pandering



Voter learning without pandering in RD

- Without pandering ($\beta(R+G) < G$), under RD the official chooses his preferred action in the first period.
- Posterior probability that politician has the same preferences as voters given observed choice a:

$$\frac{p\pi}{p\pi + (1-p)(1-\pi)}$$

- Posterior probability that politican has the same preferences as voters given observed choice b:

$$\frac{(1-p)\pi}{p(1-\pi) + (1-p)\pi}$$

- We have

$$\frac{(1-p)\pi}{p(1-\pi) + (1-p)\pi} < \pi < \frac{p\pi}{p\pi + (1-p)(1-\pi)}$$

$\rightarrow$ Official who chose a is more likely than a randomly chosen new candidate to have the same preferences as voters.

Expected welfare without pandering

- We still have

$$W_{DD} = p + p = 2p$$

$$W_{JP} = \pi + \pi = 2\pi$$

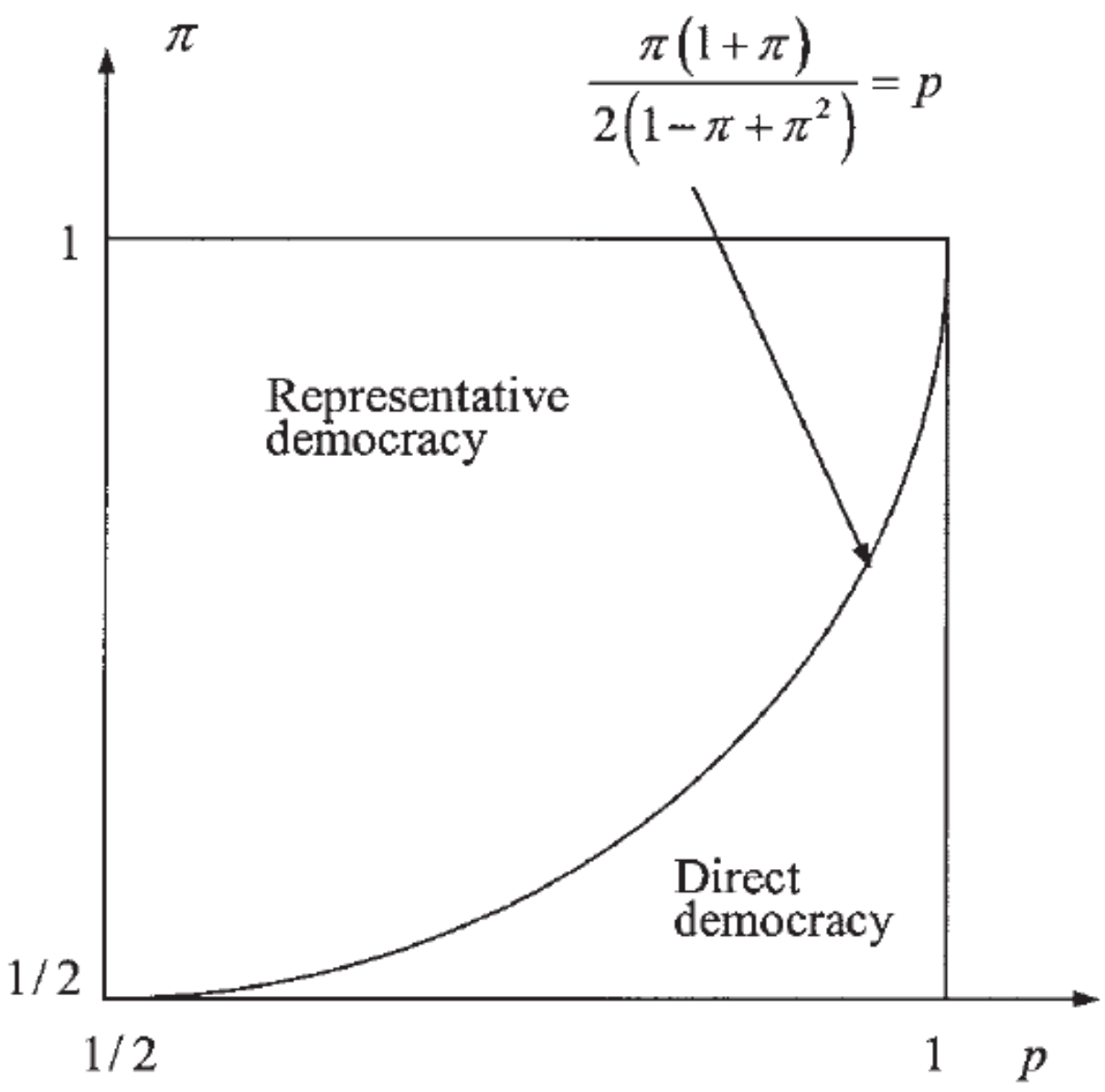
- The expected utility from RD is

$$\pi + p\pi + [p(1-\pi) + (1-p)\pi]\pi$$

- This is preferred to DD when

$$\begin{aligned} \pi + p\pi + [p(1-\pi) + (1-p)\pi]\pi &> 2p \\ p &< \frac{\pi(1+\pi)}{2(1-\pi+\pi^2)} \end{aligned}$$

The choice between RD and DD without pandering



Policymaker and Citizens

- Policymaker:
  - has ability $\theta \sim N(\bar{\theta}, \sigma_\theta^2)$
  - chooses effort a
- Policy outcome:

$$y = \theta + a$$

- Citizen utility $U(y) = y$

Policymaker Preferences

- Policymaker utility is

$$R(a) - C(a)$$

  - cost $C(a)$, strictly convex and increasing.

Policymaker Preferences

- Policymaker utility is

$$R(a) - C(a)$$

  - cost $C(a)$, strictly convex and increasing.
  - $R(a)$ is reward, different for bureaucrat or politician.

Timing

1. society chooses politician or bureaucrat
2. **policymaker chooses** a
3. θ **is realized**
4. y is observed (not a or θ)

Bureaucrat Problem

- Bureaucrat cares about the public perception of his/her ability θ:

$$\begin{aligned} R_B(a) &= \mathbb{E}(\theta|y) \\ &= \mathbb{E}(\theta + a - \hat{a}) \\ &= \bar{\theta} + \mathbb{E}(a - \hat{a}) \end{aligned}$$

  - $\hat{a}$ is the expected (equilibrium) effort.

- FOCs for a means that bureaucrat effort a_B solves

$$1 = C'(a_B)$$

Politician Problem

- Politician wants to be re-elected, meaning voter utility exceeds a threshold W.

$$\begin{aligned} R_P(a) &= \Pr(y \geq W) \\ &= [1 - \Pr(\theta \leq \bar{\theta} + \hat{a} - a)] \end{aligned}$$

  - $\hat{a}$ is the expected (equilibrium) effort. voters recognize that expected alternative to incumbent is an average politician, so $W = \bar{\theta} + \hat{a}$.

- FOCs for a means that politician effort a_P solves

$$\frac{1}{\sqrt{2\pi}\sigma_\theta} = C'(a_P)$$

Bureaucrat or Politician?

- Preference between bureaucrat and politician depends on

$$1 \gtrless \frac{1}{\sqrt{2\pi}\sigma_\theta}$$

$$\sqrt{2\pi}\sigma_\theta \gtrless 1$$

- if ability is uncertain/variable (high σ_θ), bureaucrats are preferred.
  - for example, judges or central bankers.

Imperfect monitoring

- Now assume

$$y = \theta + \varepsilon + a$$

where $\varepsilon \sim N(0, \sigma_\varepsilon^2)$.

  - talent can no longer directly be inferred from outcome.

Bureaucrat problem

$$R_B(a) = \mathbb{E}(\theta|y)$$
$$= \bar{\theta} + \frac{\sigma_\theta^2}{\sigma_\theta^2 + \sigma_\varepsilon^2}\mathbb{E}(a - \hat{a})$$

- we have a well-known signal extraction result:
  - perception of talent is discounted by signal-to-noise ratio
- Bureaucrat effort satisfies

$$\frac{\sigma_\theta^2}{\sigma_\theta^2 + \sigma_\varepsilon^2} = C'(a_B)$$

Politician Problem

$$
\begin{aligned}
R_P(a) &= \Pr(y \geq W) \\
&= [1 - \Pr(\theta \leq \bar{\theta} + \varepsilon + \hat{a} - a)]
\end{aligned}
$$

- FOCs for a means that politician effort a_P solves

$$
\frac{1}{\sqrt{2\pi(\sigma_\theta^2 + \sigma_\varepsilon^2)}} = C'(a_P)
$$

Bureaucrat or Politician?

- Preference between bureaucrat and politician depends on

$$\frac{\sigma_\theta^2}{\sigma_\theta^2 + \sigma_\varepsilon^2} \gtrless \frac{1}{\sqrt{2\pi(\sigma_\theta^2 + \sigma_\varepsilon^2)}}$$

$$\frac{\sqrt{2\pi}\sigma_\theta^2}{\sqrt{\sigma_\theta^2 + \sigma_\varepsilon^2}} \gtrless 1$$

- Again: as ability becomes more uncertain/variable (high σ_θ), bureaucrats are preferred.
- As monitoring becomes more difficult (σ_ε increases), politican is more likely to be preferred.

Splitting the cake

- Now assume that the policymaker devotes effort

$$y = \theta + a$$

but then divvies up the output between three voters

$$y = c_1 + c_2 + c_3$$

  - c_i is the payout to voter i.

Bureaucrat Problem

- Bureaucrat still wants to signal competence, so effort is same as first segment:

$$1 = C'(a_B)$$

  - in terms of setting c_i, could assume that bureaucrat would follow instructions and, for example, be "fair" and distribute equally: $c_i = y/3$.

Politician Problem

- Politician needs a majority (2 out of 3) to be re-elected, so gives $y/2$ to two voters and zero to other voter.
- Reward is

$$R_P(a) = \Pr(\frac{y}{2} \geq W)$$

- If distribution implemented by challenger is unknown, then

$$W = \frac{\theta + \hat{a}}{3}$$

- Politician effort a_P solves

$$\frac{1}{\sqrt{2\pi}\sigma_\theta} \exp(-\frac{(\bar{\theta} + a_p)^2}{18\sigma_\theta^2}) = C'(a_P)$$

Politician Effort lower with Redistribution

- Under "splitting the cake", politician effort is strictly less than the baseline:

$$\frac{1}{\sqrt{2\pi}\sigma_\theta}\underbrace{\exp\left(-\frac{(\bar{\theta}+a_p)^2}{18\sigma_\theta^2}\right)}_{<1} < \frac{1}{\sqrt{2\pi}\sigma_\theta}$$

  - this is due to an incumbency advantage.
  - perhaps counterintuitively, provides an argument for assigning redistributive tasks to bureaucrats, rather than policitians.
  - depends on whether bureaucrat can be instructed/trusted to be fair.

The role of judges in capitalist society

- Economic theory implicitly assumes a system of law and adjudication
  - And adjudication requires judges.
- Judges are responsible for interpreting and enforcing "the rules of the game," so they are significant economic policymakers.
- In this section I will share results from two recent papers in this area, Ash and MacLeod (2015) and Ash and MacLeod (2016).

Variations in Court Performance

- The quality of courts, and in particular, the speed of resoving disputes, varies considerably across countries (e.g. Djankov et al 2003).
- Part of what makes for good courts is good judges.

What makes for good judging?

- The problem of selecting public officials and providing them good incentives is a difficult problem facing all modern economies.
- There is no simple solution to the problem because high-powered incentives can lead to unexpectedly disfunctional behavior.
- With judges, we have weak incentives because we don't want them to be biased.

Pecuniary Incentives

- One thing that motivates judges is money.
  - Increasing salaries can persuade more skilled individuals to join the judiciary.
  - It can also make people work harder out of a reciprocity motivation.
- Eighteenth-century reforms in England that increased judge compensation were associated with improved stock market performance (Klerman and Mahoney 2005).

Political Pandering

- There is a lot of evidence that judges are motivated by their own political beliefs and by the political beliefs of the people supervising their work.
  - For example, elected judges impose harsher criminal sentences than tenured judges, because voters are impressed by these sentences (Gordon and Huber 2007).
  - Judges that have to be retained by a governor are known to favor the governor in related litigation (Shepherd 2009).

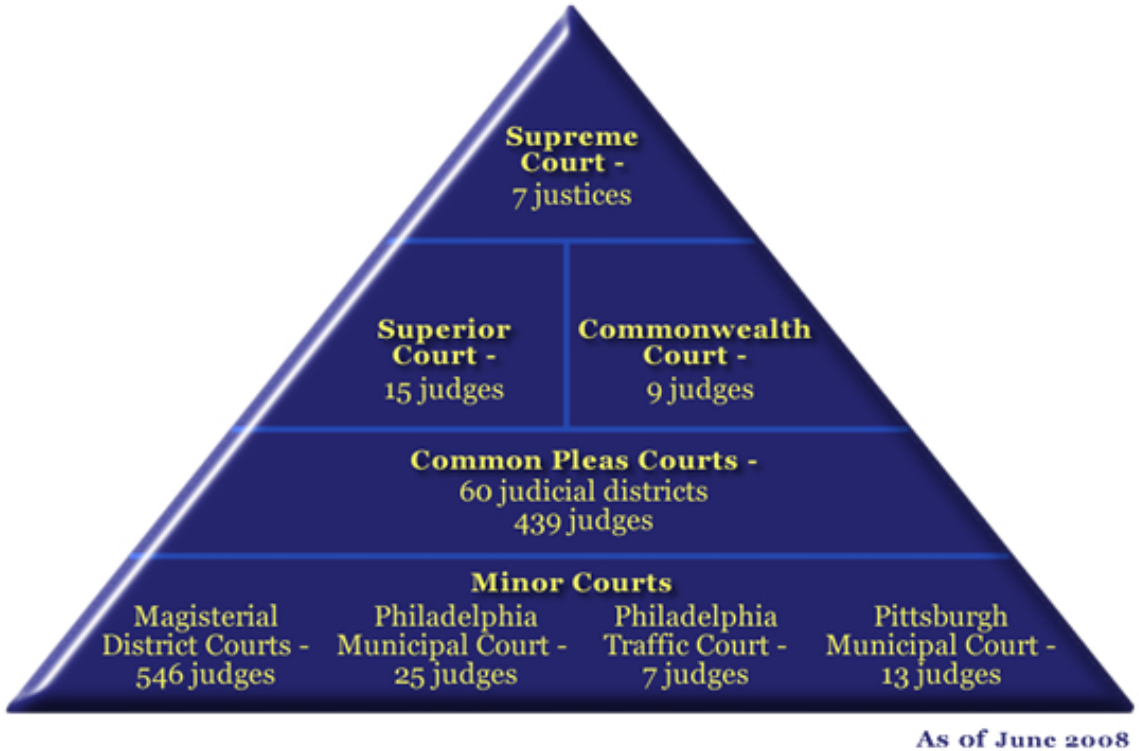
Intrinsic Motivation

- Judges might just be intrinsically motivated to do a good job.
  - If this is the case, then giving judges tenure, and doing other things to weaken extrinsic incentives, will improve their performance.
- Tenure might remove extrinsic bias, but it allows for judges' own ideological biases to be followed without accountability.
- The eighteenth-century statutes in England that increased judge salaries also gave them more secure tenure – this improved stock market performance (Klerman and Mahoney 2005).

Tenure versus Elections

- Should judges be elected or tenured?
  - All federal judges in the United States have life tenure (this is the case in Europe as well)
  - But many judges in U.S. states, including state supreme court judges, are elected.
- Which is a better system?
- This is also relevant to tenure in other white-collar public-sector work, such as public school teachers, GPs, and college faculty.

State Supreme Courts



The appellate process

- State supreme court judges rule on questions of state law (rather than federal law).
- At trial, facts are litigated and trial judge/jury gives a verdict, which the losing party can appeal.

- The intermediate appeals court takes the case and may affirm, reverse, or modify the trial verdict.
- That ruling can be appealed to the state supreme court.

- Judges vote whether to affirm or reverse the lower decision
- One of the majority judges writes an opinion explaining the decision

Measuring Judge Output and Quality

- Writing decisions is the main task for these judges.
  - Output: number of opinions and length of opinions
  - Quality: citations to those opinions from future judges

Econometric Approach

- The approach in Ash and MacLeod (2015, 2017) views the U.S. states as a set of laboratories for the exploration of the effect of law upon outcomes (see Bertrand, Duflo and Mulanathain, 2004).
- We hold fixed as many state- and judge-level characteristics as we can, with the hope of identifying the causal effect of a public-sector reform on judges.

Econometric Specification

- Judge i, state s, year t:

$$y_{ist} = \text{TIME}_t + \text{JUDGE}_i + \text{STATE}_s \times t + Z'_{ist}\rho + \varepsilon_{ist}$$

- y_{ist}, output measure
- TIME_t, time fixed effect (allows for arbitrary nationwide trends in the performance variable)
- JUDGE_i, judge specific effect (controls for time-invariant state-level and judge-level characteristics)
- $\text{STATE}_s \times t$, state-level time trends (allows for cross-state growth variations)
- Z_{ist}, vector of treatment variables (indicators for years after rule change)
- ε_{ist}: Robust standard errors clustered at state level (see Bertrand et al, QJE 2004)
- ρ: Causal effect of interest

Intermediate Appellate Court

- The first reform we look at is the establishment of an intermediate appellate court.
- Before, state supreme court judges reviewed a case directly from trial, with mandatory review.
- After, an intermediate court reviewed the case first, and the court exercised discretionary review.
- 26 states established IAC's between 1947 and 1994:
  - FL (1956), MI (1963), AZ (1964), NM (1965), MD (1966), NC (1967), OK (1967), AL (1969), OR (1969), WA (1969), CO (1970), MA (1972), KY (1975), IA (1976), KS (1976), WI (1977), AR (1978), HI (1979), AK (1980), ID (1981), CT (1982), MN (1983), VA (1984), ND (1987), UT (1987), NE (1990).

Incentive Effects of an IAC

- When an intermediate appellate court is operating, supreme court judges have a lot of help in reviewing cases, and have more discretion in whether to accept cases for review:
  - We expect that the introduction of an intermediate appellate court will increase the time and discretion available to judges
  - They should devote more time to what they care about – which might include judging.

IAC Results

- Establishment of an IAC increased length of opinions, caselaw research, and citations
  - with more time, they spend more time on each opinion

State Supreme Court Election Systems

- There are three key judge retention schemes:
  - In partisan elections, incumbent judges face a challenger, with party affiliations on the ballot.
  - In nonpartisan elections, incumbent judges face a challenger, but party affiliations are not on the ballot.
  - Merit selection with tenure: judges are selected by a technocratic commission and then do not have to face reelection

Election System Changes

- Six states moved from contested nonpartisan elections to mreit system:
  - AZ (1974), WY (1972), FL (1976), MD (1976), SD (1980), UT (1985)
- Nine states moved from contested partisan elections to system system:
  - KA (1958), IA (1962), NE (1962), IL (1964), IN (1970), CO (1966), OK (1967), TN (1971), NM (1988)
- By measuring performance before and after these changes in tenure status, we can:
  - assess whether expert commissions select better candidates than voters
  - assess whether competitive elections incentivize higher judging effort, or whether they instead divert effort away from judging.

Electoral Rule Change Results

- Selection effects:
  - compared to elections, merit commissions select higher-quality judges, that do the same amount of work but get cited more often by future judges
- Incentive effects:
  - Increasing tenure increases performance for the non-partisan judges but not for the partisan judges
  - These judges are basically politicians and don't seem to care as much about their work.
- This is supportive evidence for policies seeking to improve judge tenure.