Week 3: Distributive politics – From general logic to comparative political economy

A second introduction to formal political economy, Trinity Term 2025

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Overview

- Core theme: The political logic of resource allocation — how and why politicians use targeted transfers to voters, legislators, or interest groups to build coalitions.
- Demand-side dynamics: Competing theories on targeting swing vs. core voters.
- Supply-side dynamics: Use of distributive transfers within legislative and elite coalitions
- Institutional contexts: How electoral systems, informational capacity, and administrative constraints shape distributive strategies.
- Key insight: Distributive politics reflects electoral incentives, interest group pressure, and institutional constraints and shapes the extent to which policymakers can reconcile economic efficiency, their normative aspirations (“equity“ or fairness), and political survival.

Outline

Defining terms and situating the lecture in the broader course structure

The general logic of distributive politics

- Demand-side explanations
- Supply-side explanations

The comparative political economy of distributive politics

- Electoral systems and distributive politics
- Extensions: Forms of government and interest group systems

What is distributive politics?

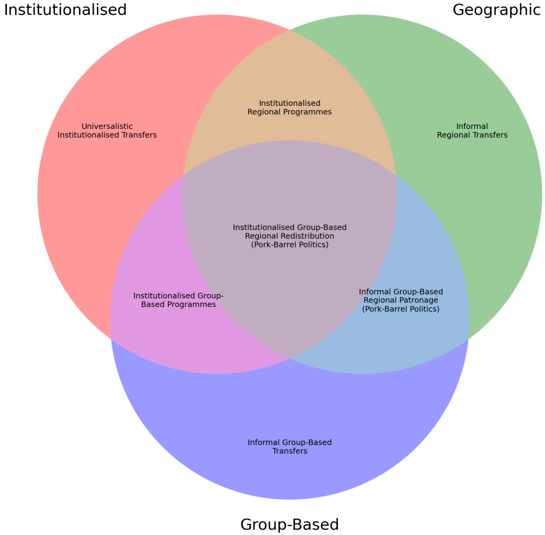
Definition: Targeted (e.g. geographic or at the group or individual level), yet legal transfers to create and bolster electoral or legislative coalitions

Two components:

- Demand-side: transfers to specific groups of voters to either *persuade* them to vote for some candidate / party or to *(de-)mobilise* one's supporters (opponents) $\rightarrow$ electoral coalitions
- Supply-side: transfers to other legislators / parties or interest groups to ensure some policy passes (or increase the probability of adoption) $\rightarrow$ "greasing the wheels" (Evans, 2004) / legislative coalitions

Coming to grips with the word salad of distributive politics: What distinguishes pork-barrel politics from clientelism, corruption (Fisman and Golden, 2017), place-based industrial policies (Autor et al., 2025; Bartik, 2020; Fajgelbaum and Gaubert, 2025; Gold and Lehr, 2024; Hanson, Rodrik, and Sandhu, 2025; Lang, Redeker, and Bischof, 2022; Moretti, 2024), etc.?

The conceptual space of distributive politics



Illustrating these concepts

Institutionalised	Geographic	Group-Based	Label and Description	Real-World Example(s)
Yes	No	No	**Universalistic Institutionalised Transfers:** Formalised and broad-based, not regionally or group-targeted.	NHS (UK); US Social Security
No	Yes	No	**Informal Regional Transfers:** Ad hoc, regionally focused, not institutionalised or group-specific.	Nigeria: oil-funded "ghost projects" in the Niger Delta
No	No	Yes	**Informal Group-Based Transfers:** Non-institutionalised patronage targeting specific political or identity groups.	Brazil: *mensalão* vote-buying scandal (2005)
Yes	Yes	No	**Institutionalised Regional Programmes:** Formalised and spatial, but not targeting specific groups.	U.S.: Tennessee Valley Authority; EU Funds
Yes	No	Yes	**Institutionalised Group-Based Programmes:** Formalised benefits targeting identity or political groups.	Mexico: PRI-era food aid during elections
No	Yes	Yes	**Informal Group-Based Regional Patronage:** Ad hoc support to identity-linked regions through non-transparent means.	Northern Ireland: "Cash for Ash" scandal
Yes	Yes	Yes	**Institutionalised Group-Based Regional Redistribution:** Fully formalised and spatially targeted redistribution favouring specific groups.	Japan: LDP rural road-building

Eliciting your priors

Think about the context you know best or are most interested in. In light of the above, briefly discuss the following questions with your neighbour:

1. What type of distributive politics is most prevalent (e.g. clientelism, pork-barrel politics, individual/group-based or regional corruption, placed based policies)?
2. Do politicians make these transfers to appeal to voters or interest groups? Does it work?
3. Suppose you could legally ban these types of transfer effectively. Would the scope for compromise and policymaking shrink, expand, or remain constant? Why?

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3. Suppose you could legally ban these types of transfer effectively. Would the scope for compromise and policymaking shrink, expand, or remain constant? Why?

→ Cox, North, and Weingast, 2019 argue that development economists and practitioners have the tendency to see all kinds of imperfections (e.g. barriers to entry, tariffs, exemptions, etc.), which they want to remove or correct. Can be dangerous because doing so can destroy the rents that keep a society peaceful.

This lecture's core themes in broader context

Two weeks ago, we talked about the difficulty of collective decision-making in large, heterogenous societies $\rightarrow$ difficult to aggregate different – often conflicting – interests

How do these societies manage these conflicts? Elections and political parties are important, as we discussed in the last two sessions, but distributive politics is also a large part of the answer.

Next, we will explore the role of distributive politics in two steps:

1. General logic
2. Variation (the comparative political economy)

$\rightarrow$ Scope: Mainly "old" democracies, though we will look briefly at clientelism (but not autocracies)

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Introducing the demand-side of distributive politics

Central question: Which parts of the electorate should politicians target transfers at, and why (even ignoring institutional variation for now)?

Three fundamental and inter-related debates:

1. Core vs. swing voters (persuasion, mobilisation, and coordination)
2. Asymmetric information and imperfect observability
3. Voters' commitment problem

Who to target? Core vs. swing voters

Fundamental distinction: *Core voters* have a non-negligible degree of party loyalty (or ideological alignment), unlike more electorally volatile *swing voters* → links to last session's discussion of Aldrich, 1983 vs. Dixit and Londregan, 1998

Core voter camp

Cox and McCubbins, 1986: politicians are *risk-averse* → prefer less uncertain outcomes → responsiveness of swing voters more uncertain → transfers directed to core more predictable

Dixit and Londregan, 1996: target core if advantage in delivery capacity for core is strong, relative to other, more "swingy" groups

Illustrative example: Towns Fund in UK, set up under Johnson administration (Hanretty, 2021)

Swing voter camp

Dixit and Londregan, 1996, 1998; Lindbeck and Weibull, 1987; Stokes, 2005: inefficient to reward voters already on your side

Optimal to allocate transfers when marginal electoral gains from persuasion outweigh losses from alienating core – especially when delivery capacity is even across groups

Illustrative example: US swing states favoured by FEMA disaster relief after 1988 (Garrett and Sobel, 2003; Reeves, 2011)

Electoral politics as a redistributive game: Setup (Cox and McCubbins, 1986)

Objective: Reframe electoral competition as a *redistributive game*, not just a spatial one.

- Candidates (denoted α, β) compete by promising **transfers** to voter *groups* (not ideal points in a policy space).
- Each group $g \in \{1, \ldots, G\}$ has $n_g \in \mathbb{N}$ members. Candidate α promises vector $\mathbf{x}_\alpha = (x_{\alpha 1}, \ldots, x_{\alpha G}) \in \mathbb{R}^G$, and β proposes $\mathbf{x}_\beta = (x_{\beta 1}, \ldots, x_{\beta G}) \in \mathbb{R}^G$. Full turnout assumed.
- Voters in group g choose candidate α with probability $P_{\alpha g}(x_{\alpha g}, x_{\beta g})$, and β with $1 - P_{\alpha g}(x_{\alpha g}, x_{\beta g})$.
  - $\rightarrow$ $\frac{\partial P_{\alpha g}}{\partial x_{\alpha g}} > 0$: more transfers from candidate $\alpha \Rightarrow$ more support
  - $\rightarrow$ $\frac{\partial P_{\alpha g}}{\partial x_{\beta g}} < 0$: more transfers from candidate $\beta \Rightarrow$ less support for α
  - $\rightarrow$ $\frac{\partial^2 P_{\alpha g}}{\partial x_{\alpha g}^2} \leq 0$: diminishing returns to transfers (twice differentiable)

Asymmetry in group responsiveness (Cox and McCubbins, 1986)

Two distinct assumptions—only one is made:

(1) Probability sum assumption:

$$P_{\beta g}(x_{\beta g}, x_{\alpha g}) = 1 - P_{\alpha g}(x_{\alpha g}, x_{\beta g})$$

$\rightarrow$ Always assumed: voters choose exactly one candidate; probabilities must add up to 1.

(2) Symmetry of responsiveness (*not* assumed by Cox and McCubbins, 1986):

$$P_{\alpha g}(x_{\alpha g}, x_{\beta g}) = 1 - P_{\alpha g}(x_{\beta g}, x_{\alpha g})$$

$\rightarrow$ Symmetry implies voters respond identically to both candidates' offers; rules out structural group biases.

Why does asymmetry matter?

- Allows for structural favouritism: some groups favour one candidate even with equal transfers.
- Reflects persistent cleavages: ideology, identity, party loyalty.

The constrained maximisation problem in Cox and McCubbins, 1986

Candidate i maximises expected vote share:

$$\max_{x_i \in \mathbb{R}^G} \mathrm{EV}_i = \sum_{g=1}^{G} n_g \cdot P_{ig}(x_{ig}, x_{jg}), \quad \text{where } i \in \{\alpha, \beta\}, \quad i \neq j$$

Subject to:

- **Budget constraint:** $\sum_g x_{\alpha g} \leq B$, where $B > 0$ is exogenously given (e.g. fiscal capacity)
- **Minimum transfer constraint:** $x_{\alpha g} \geq -b_g$, with $b_g \geq 0$ (maximum penalty a group can receive)

Interpretation: Candidates allocate scarce resources (or impose limited costs) across groups to buy votes efficiently.

Intuitive interpretation of the setup

Intuition: Treat politics as *vote investment* under uncertainty. Importantly, risk aversion is not included in the politician's problem; they are treated as risk-neutral.

Interpretive move: Cox & McCubbins argue:

- Some groups (e.g. *swing voters*) have **less predictable** vote responses—higher variance in $P_{\alpha g}$. Others (e.g. *core supporters*) are **known quantities**.
- A **risk-averse candidate** prefers predictable returns, and will over-invest in core groups to avoid uncertainty.

Analogy: Like an investor choosing assets:

- Risk-neutral $\rightarrow$ chooses highest expected return.
- Risk-averse $\rightarrow$ prefers lower variance, even at cost to expected return.

Refresher: What is the Lagrangian?

Problem: Maximise $f(\mathbf{x})$ subject to $g(\mathbf{x}) = c$

Idea: Turn a constrained problem into an unconstrained one using a multiplier:

$$\mathcal{L}(\mathbf{x}, \lambda) = f(\mathbf{x}) + \lambda(c - g(\mathbf{x}))$$

Interpretation:

- λ is the **shadow price** of the constraint—how much the objective would increase if the constraint were relaxed (Dixit, 1990).
- Optimality $\Leftrightarrow$ gradients of f and g are aligned: $\nabla f = \lambda \nabla g$

Why it works: At the optimum, moving along the constraint surface (i.e., staying feasible) shouldn't increase the objective.

Lagrangian with inequality constraints (Kuhn-Tucker)

Kuhn-Tucker conditions generalise Lagrange multipliers to handle **inequality constraints**.

Problem: Maximise $f(\mathbf{x})$ subject to:

$$g(\mathbf{x}) \leq c, \quad h_i(\mathbf{x}) \geq 0$$

Lagrangian:

$$\mathcal{L}(\mathbf{x}, \lambda, \boldsymbol{\mu}) = f(\mathbf{x}) + \lambda(c - g(\mathbf{x})) + \sum_i \mu_i h_i(\mathbf{x})$$

Kuhn-Tucker conditions:

- Stationarity: $\nabla_{\mathbf{x}} \mathcal{L} = 0$
- Dual feasibility: $\lambda, \mu_i \geq 0$
- Complementary slackness: $\lambda(c - g(\mathbf{x})) = 0, \quad \mu_i h_i(\mathbf{x}) = 0$

Intuition:

- If a constraint is **not binding**, its multiplier is zero. If a constraint is **binding**, the multiplier shows how much the objective could improve if the constraint were relaxed.

Solving the problem: Lagrangian and first-order conditions

$$\mathcal{L} = \sum_{g=1}^{G} n_g P_{\alpha g}(x_{\alpha g}, x_{\beta g}) + \lambda \left(B - \sum_{g=1}^{G} x_{\alpha g} \right) + \sum_{g=1}^{G} \mu_g (x_{\alpha g} + b_g)$$

First-order conditions (FOCs): For each group g:

$$\frac{\partial \mathcal{L}}{\partial x_{\alpha g}} = n_g \frac{\partial P_{\alpha g}}{\partial x_{\alpha g}} - \lambda + \mu_g = 0$$

Complementary slackness conditions:

$$\lambda \geq 0, \quad \lambda \left(B - \sum_{g} x_{\alpha g} \right) = 0$$

$$\mu_g \geq 0, \quad \mu_g (x_{\alpha g} + b_g) = 0 \quad \forall g$$

Kuhn-Tucker conditions in our context

Key idea: When a constraint is not binding, its multiplier is zero. When it binds, the multiplier reflects the cost of relaxing it. In this context:

- **Budget constraint:** If total transfers use the full budget, $\lambda > 0$ (scarcity is binding).
- **Minimum transfer constraint:**
  - $\rightarrow$ If $x_{\alpha g} > -b_g$, then constraint is slack $\rightarrow \mu_g = 0$
  - $\rightarrow$ If $x_{\alpha g} = -b_g$, then constraint binds $\mu_g > 0 \rightarrow$ group offers too low a return to merit investment

Economic intuition:

- λ: marginal value (in votes) of one extra unit of budget; μ_g: shadow cost of being unable to penalise group g beyond $-b_g$.
- FOCs imply: candidates equalise marginal vote returns across groups they invest in, and ignore others.

Existence of Nash Equilibrium

Goal: Identify an equilibrium in which both candidates choose optimal redistributive strategies.

Nash equilibrium: A strategy profile $(\mathbf{x}_\alpha^*, \mathbf{x}_\beta^*)$ such that:

- $\mathbf{x}_\alpha^*$ maximises EV_α given $\mathbf{x}_\beta^*$
- $\mathbf{x}_\beta^*$ maximises EV_β given $\mathbf{x}_\alpha^*$

Why it exists:

- Each candidate solves a concave maximisation problem with linear constraints.
- Vote functions $P_{\alpha g}$ assumed continuous and concave in own strategy.
- Feasible sets are convex and compact.
- Nash equilibrium guaranteed by standard fixed-point theorems (e.g. Kakutani).

Implication: Solving each candidate's constrained maximisation problem yields a Nash equilibrium.

Theorem 1: Electoral investment rule (Cox and McCubbins, 1986)

Result: In (the Nash) equilibrium, candidates allocate transfers to groups with the **highest electoral return per dollar**, and neglect or penalise those with the lowest.

From FOCs:

$$n_g \cdot \frac{\partial P_{\alpha g}}{\partial x_{\alpha g}} = \lambda \quad \text{if } x_{\alpha g} > -b_g \quad \text{and} \quad n_g \cdot \frac{\partial P_{\alpha g}}{\partial x_{\alpha g}} < \lambda \quad \text{if } x_{\alpha g} = -b_g$$

Define the electoral rate of return: $r_g(x_{\alpha g}) \equiv n_g \cdot \frac{\partial P_{\alpha g}}{\partial x_{\alpha g}}(x_{\alpha g}, x_{\beta g})$

Theorem 1

- Groups with highest $r_g(0)$ are prioritised.
- Candidate will transfer to group g **only if** $r_g(x_{\alpha g}) \geq \lambda$ (necessary condition, not sufficient).
- If budget is tight, low-return groups are ignored or penalised (set to lower bound).

Theorem 2: Monotonic allocation across groups (Cox and McCubbins, 1986)

Additional assumption: Cross-group ordering of marginal returns

Assume: For all $t \in \mathbb{R}$,

$$r_1(t) > r_2(t) > \cdots > r_G(t)$$

That is, group 1 is always more electorally responsive than group 2, and so on.

Theorem 2: In any Nash equilibrium:

- Groups are ordered by the size of the transfer they receive:

$$x_{\alpha 1} \geq x_{\alpha 2} \geq \cdots \geq x_{\alpha G}$$

- Strict inequality if the marginal return ordering is strict and the budget constraint binds.
- Some low-ranked groups may receive the minimum allowed transfer (i.e. be ignored or penalised).

Intuitions underlying these theorems

Intuition of theorem 1: Candidate behaves like investors:

- Allocates scarce resources to groups yielding the best *marginal votes per dollar*.
- Just as a firm invests in projects with highest marginal return until returns equal marginal cost.

Intuition of theorem 2:

- If group i is always more responsive than group j, investing in j before i would violate optimality.
- The equilibrium thus "sorts" groups into winners and losers based on responsiveness, holding group size fixed.

Empirically illustrating theorem 2

Political interpretation:

- Parties develop stable electoral coalitions based on groups' consistent responsiveness.
- High-return groups (core voters) are systematically favoured because they're more reliable vote producers. Low-return groups (opposition or unpredictable swing voters) receive less—even if they are "in play."

Empirical examples: Tammany Hall in NYC; Democrats increasingly favour middle-class, highly educated voters (e.g. student loan forgiveness); Republicans appeal to rural and high-income voters

Bottom line: Redistribution reflects long-run *electoral investment logic*, not short-run persuasion.

Introducing Lindbeck and Weibull, 1987: The swing voter strikes back

Main contribution: Reframes electoral competition as a game over *balanced-budget transfers* to socio-economic groups, under probabilistic voting.

Key difference from Cox and McCubbins, 1986:

- Assumes uncertainty in ideological preferences $\rightarrow$ individual vote choice is probabilistic, not deterministic.
- Parties maximise expected plurality, not just vote share.

Why does this matter?

Explains why parties often converge on redistribution promises and target swing voters over loyal bases—even with multidimensional policy spaces.

Lindbeck and Weibull, 1987: Setup

Objective: Model electoral competition as a game over *balanced-budget redistribution* across voter groups.

Key actors:

- Two political parties: **A** and **B**, competing in a representative democracy.
- A finite number of **voters** $i \in \{1, \ldots, n\}$, partitioned into m disjoint socio-economic **groups** $I_1, \ldots, I_m$, with $n_k \in \mathbb{N}$ members each, i.e. $I_i \cap I_j = \emptyset$ for all $i \neq j$, $\quad \bigcup_{k=1}^{m} I_k = \{1, \ldots, n\}$.

Economic structure:

- Each voter has an exogenous, fixed income (or wealth) $\omega_i > 0$.
- Parties propose **net transfers** to groups: Party A proposes $x = (x_1, \ldots, x_m) \in \mathbb{R}^m$, Party B proposes $y = (y_1, \ldots, y_m) \in \mathbb{R}^m$.
- Transfers are uniform within groups by assumption (e.g. x_k to all $i \in I_k$).

The balanced-budget constraint

Balanced-budget constraint: $\sum_{k=1}^{m} n_k x_k = \sum_{k=1}^{m} n_k y_k = 0$

$\rightarrow$ Transfers must sum to zero — no net creation or destruction of resources.

$\rightarrow$ Redistribution is purely *zero-sum*. Every unit transferred to one group must be extracted from others. There is no exogenously given **fixed upper bound** budget, as in Cox and McCubbins, 1986.

- Redistribution is constrained by a **positivity condition**: $\omega_i + x_{k(i)} > 0 \quad \forall i$
- No individual can be taxed so heavily that their post-transfer income becomes non-positive.

Extreme case: maximum feasible transfer to one group

Suppose all groups except g are taxed as heavily as possible, just up to the point where each individual's net income stays positive. The maximum transfer to group g satisfies:

$$x_g \leq \frac{1}{n_g} \sum_{k \neq g} n_k \cdot (-x_k) \quad \text{with} \quad x_k \geq -\min_{i \in I_k} \omega_i$$

Voter utility

Voter preferences:

- Voter i derives utility from two components:
  - $\rightarrow$ Consumption utility: $v_i(c_i)$, where $c_i = \omega_i + x_{k(i)}$ or $y_{k(i)}$ (income plus net transfer)
  - $\rightarrow$ Non-consumption utility: ideology, candidate traits, etc., denoted by random variables a_i, b_i; think about last session's discussion of valence
- Total utility if party A wins: $u_i(x, a_i) = v_i(\omega_i + x_{k(i)}) + a_i$
- If B wins: $u_i(y, b_i) = v_i(\omega_i + y_{k(i)}) + b_i$
- Voter chooses party yielding higher total utility, e.g. choose A over B iff $u_i(x, a_i) \geq u_i(y, b_i)$:

$$v_i(\omega_i + x_{k(i)}) + a_i \geq v_i(\omega_i + y_{k(i)}) + b_i \Leftrightarrow \underbrace{\Delta v_i(\omega)}_{\text{material differential}} + \underbrace{a_i - b_i}_{\text{valence differential}} \geq 0$$

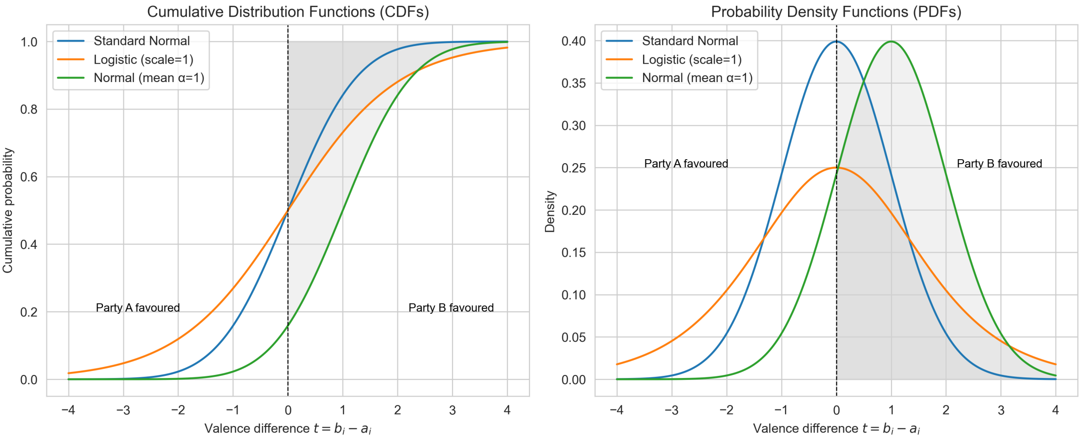
Party information

- Parties observe ω_i, $v_i(\cdot)$ (i.e. consumption utility is common knowledge).
- But a_i, b_i (non-consumption utility) are private to voter i.
- Each party assigns a probability distribution over the difference $b_i - a_i$:

$$F_i(t) = \Pr(b_i - a_i \leq t)$$

- Assumptions on F_i:
  - $\rightarrow$ **Regularity:** F_i is twice continuously differentiable with a density $f_i(t) = F_i'(t)$ that is strictly positive for all $t \in \mathbb{R}$.
  - $\rightarrow$ **Unimodality:** F_i is unimodal, meaning its density has a unique maximum. To the left of this mode the density is strictly increasing and to the right it is strictly decreasing.
  - $\rightarrow$ **Symmetry (in some cases):** Often F_i is assumed to be symmetric (around zero). In this case, the mode coincides with the mean (or median), which we denote by α_i, interpreted as voter i's expected party “bias“ in favour of Party A.

Illustrating the distribution function



Probabilistic voting

Voter decision rule:

- Voter i votes for party A if $u_i(x, a_i) \geq u_i(y, b_i)$, which we know from above is: $\Delta v_i(\omega) \geq b_i - a_i$.
- Given that $b_i - a_i$ follows $F_i(\cdot)$, the probability voter supports A is:

$$p_i \equiv Pr(b_i - a_i \leq \Delta v_i(\omega)) = F(\Delta v_i(\omega)) = F_i\left(v_i(\omega_i + x_{k(i)}) - v_i(\omega_i + y_{k(i)})\right)$$

Smooth, continuous voting behaviour: Because vote probability $p_i = F_i(\Delta v_i)$ is a differentiable function of utility difference, small policy changes lead to small, predictable shifts in support. This avoids the discontinuous, all-or-nothing vote switches seen in deterministic models, e.g. median voter logic (Persson and Tabellini, 2002).

Why probabilistic voting?

Key advantage: Vote behaviour is *smooth and continuous* in policy space.

In probabilistic voting models:

- Voter i supports Party A with probability: $p_i = F_i\left(v_i(\omega_i + x_{k(i)}) - v_i(\omega_i + y_{k(i)})\right)$. F_i is smooth and strictly increasing $\Rightarrow p_i$ varies continuously with policy. Implication: Small policy changes lead to marginal shifts in expected votes (Persson and Tabellini, 2002).

In deterministic models (e.g. Downs, Cox):

- Vote choice is all-or-nothing: $p_i = 1 \quad$ if $\Delta v_i > t$ and zero otherwise
- Discontinuous and non-differentiable $\Rightarrow$ small changes can flip entire voter blocs.
- No marginal returns from policy tweaks $\rightarrow$ can cause corner solutions or non-existence of equilibrium.

Probabilistic voting ensures smooth objective functions and interior solutions — ensuring equilibrium existence and uniqueness.

Party strategy

Party objective:

- Each party chooses transfers to maximise expected vote plurality:

$$\mathbb{E}[n_A - n_B] = \sum_i (2p_i - 1)$$

- A Nash equilibrium is a pair (x^*, y^*) such that no party can improve its expected plurality by deviating, given the other's policy.

Feasibility: Each party's choice must lie in the set:

$$X_0 = \left\{ z \in \mathbb{R}^m : \sum_k n_k z_k = 0 \text{ and } \omega_i + z_k > 0 \ \forall i \in I_k \right\}$$

Theorem 1: Policy convergence in equilibrium

Main result

In any Nash equilibrium, both parties propose the same redistribution vector:

$$x = y$$

Why does convergence occur?

- Because vote choice is probabilistic and marginal: $p_i = F_i(v_i(\omega_i + x_{k(i)}) - v_i(\omega_i + y_{k(i)}))$
- A small change in policy by one party can sway voters near indifference.
- Thus, any difference in proposals creates an incentive to undercut the opponent in high-responsiveness groups.

Implication: Even with multidimensional redistribution policies, parties converge in equilibrium $\rightarrow$ generalises Hotelling's "minimum differentiation" logic to a redistributive context.

Theorem 1 (cont.): Electoral first-order condition

Given policy convergence ($x = y$), the equilibrium transfer vector must satisfy:

Necessary condition for equilibrium

For each group $k = 1, \ldots, m$: $\sum_{i \in I_k} v_i'(\omega_i + x_k) \cdot f_i(0) = \lambda n_k$

- $v_i'(\cdot)$ is the marginal utility of consumption,
- $f_i(0)$ is the density of $t = b_i - a_i$ evaluated at 0 (i.e., responsiveness of voter i at indifference),
- λ is the Lagrange multiplier on the balanced-budget constraint,
- $n_k = |I_k|$ is the size of group k.

Interpretation: At the optimal redistribution policy, the marginal electoral return (via increased vote probability) from transferring to any group k is equal across groups — once normalised by group size.

Deriving the electoral first-order condition

Objective: Given symmetry and policy convergence ($x = y$), each party chooses $x = (x_1, \ldots, x_m)$ to maximise expected plurality:

$$\max_{x \in X_0} \quad \sum_{i=1}^{n} \left(2F_i\left(v_i(\omega_i + x_{k(i)}) - v_i(\omega_i + x_{k(i)})\right) - 1\right) = \max_{x \in X_0} \quad \sum_{i=1}^{n} (2F_i(0) - 1) \Rightarrow \text{trivial if } x = y$$

Instead: Fix opponent's strategy at y and maximise vote probability:

$$\max_{x \in X_0} \quad \sum_{i=1}^{n} F_i\left(v_i(\omega_i + x_{k(i)}) - v_i(\omega_i + y_{k(i)})\right)$$

Lagrangian:

$$\mathcal{L}(x, \lambda) = \sum_{i=1}^{n} F_i\left(v_i(\omega_i + x_{k(i)}) - v_i(\omega_i + y_{k(i)})\right) + \lambda\left(-\sum_{k=1}^{m} n_k x_k\right)$$

Deriving the electoral first-order condition (cont'd)

Take derivative w.r.t. x_k:

$$\frac{\partial \mathcal{L}}{\partial x_k} = \sum_{i \in I_k} f_i(\cdot) \cdot v_i'(\omega_i + x_k) - \lambda n_k = 0 \Rightarrow \sum_{i \in I_k} v_i'(\omega_i + x_k) \cdot f_i(\cdot) = \lambda n_k$$

At $x = y$, we have $f_i(0)$ for all i, giving the FOC stated in Theorem 1.

LHS: Marginal vote gains from increasing transfer x_k to group k:

- $v_i'(\cdot)$: marginal utility of consumption
- Why $f_i(0)$? Because in equilibrium, both parties offer the same transfers $\Rightarrow$ material utilities are equal. The probability of swaying a voter depends on the density of ideologically indifferent voters — those with $b_i - a_i \approx 0$. Then, $f_i(0)$ captures how persuadable a voter is at the margin.

RHS: Weighted marginal cost of transferring to group k (via budget constraint).

Interpreting the FOC

Interpretation: The optimal policy equates the **marginal electoral return per capita** across all groups:

$$\frac{1}{n_k}\sum_{i\in I_k} v_i'(\omega_i + x_k)\cdot f_i(0) = \lambda$$

Implication: Groups with more **swing voters** (i.e. high $f_i(0)$) or more **elastic material preferences** receive larger transfers.

Director's Law: Why middle-income groups are favoured

Director's Law (Stigler, 1970): *Redistribution tends to favour the middle class, not the poorest.*

How does this emerge in the model? Start from the electoral first-order condition:

$$\sum_{i \in I_k} v_i'(\omega_i + x_k) \cdot f_i(0) = \lambda n_k$$

- High $f_i(0) \rightarrow$ voter i is likely to be ideologically indifferent $\rightarrow$ can be swung by small transfer change. $v_i'(\cdot)$ is higher for lower-income voters (by concavity),
- but: extreme-income voters (very rich or very poor) tend to have **strong ideological attachments**, i.e. **low** $f_i(0)$.

Swing voters drive redistribution

When voters in **middle-income groups** have moderate marginal utility $v_i'(\cdot)$ and are ideologically flexible, hence persuadable (high $f_i(0)$) transfers favour them.

Empirical illustrations: Redistribution towards swing voters

Lindbeck and Weibull, 1987 predict: Redistribution targets swing voters — often **middle-income**, ideologically flexible groups.

- **FEMA disaster relief in the US:**
  - → Swing states systematically receive more aid after disasters, especially in presidential election years (Garrett and Sobel, 2003; Reeves, 2011; Strömberg, 2024)
- What other examples can you think of?

Bottom line: Policymakers allocate transfers where they yield the highest marginal electoral return — as Lindbeck & Weibull formalise.

Summary: Cox and McCubbins, 1986 vs. Lindbeck and Weibull, 1987

Model feature	**Cox and McCubbins, 1986**	**Lindbeck and Weibull, 1987**
Voter behaviour	Deterministic	Probabilistic
Party objective	Maximise expected votes	Maximise expected plurality
Target group (equilibrium)	Core (risk-averse logic)	Swing (vote elasticity logic)
Budget constraint	Fixed (exogenous)	Balanced-budget
Vote response	Discontinuous	Smooth, marginal
Empirical prediction(s)	Durable favouritism for core voters; sticky coalitions	Flexible targeting of swing voters

Core vs. swing voters – never the twain shall meet?

The core vs. swing voter debate reflects two competing logics of distributive politics. The question is: Can they be reconciled? What are the conditions for one logic to be more plausible than the other?

Three important contributions:

1. Dixit and Londregan, 1996: the key moderating variable is the whether the politician has group-specific advantages in delivering transfers
2. Stokes, 2005: once we move to a dynamic setting with imperfect monitoring, a commitment problem arises that social structures can address
3. Cox, 2010: we need to examine the effect of transfers on *mobilisation* and *coordination*, not just *persuasion*

Institutions, especially electoral rules/systems, are important for explaining variation in distributive politics and identifying who the core/swing voters are

Dixit and Londregan, 1996: Model structure

Key idea: Parties allocate transfers to voter groups to maximise vote share, but voters also have ideological preferences — not all can be "bought."

Players:

- Two parties (L and R), each allocates transfers T_{iL} and T_{iR} across G groups, each of size N_i.
- Each party has a fixed budget B, with: $\sum_i N_i T_{ik} = B \quad$ for each party $k \in \{L, R\}$

Group and voter traits:

- Ideological preference $X \sim \Phi_i(\cdot)$: distribution of ideological affinity for R over L.
- Consumption utility: $U_i(C) = K_i C^{1-\varepsilon}/(1-\varepsilon)$ (CRRA), with $K_i > 0$, $\varepsilon > 0$.
- Transfers are "leaky": effective transfer to group i is $t_{ik} = (1-\theta_{ik})T_{ik}$ (if $T_{ik} \geq 0$).

Dixit and Londregan, 1996: Voter decision rule and implications

Vote choice: Voter in group i votes for L, rather than R, iff:

$$U_i(C_{iL}) - U_i(C_{iR}) > X \quad \Rightarrow \quad X < \Delta U_i \equiv U_i(C_{iL}) - U_i(C_{iR})$$

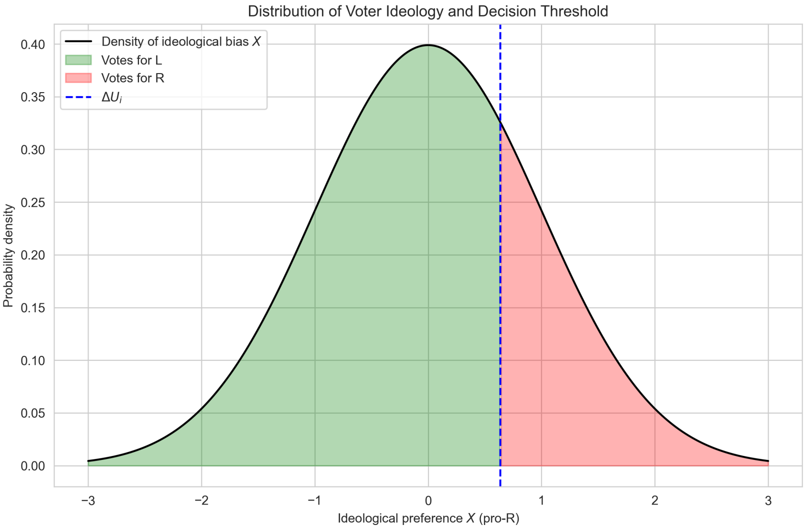
Implication: Share of group i voting for L: $\Phi_i(\Delta U_i)$

Interpretation: Transfers shift the ideological "cutpoint" ΔU_i:

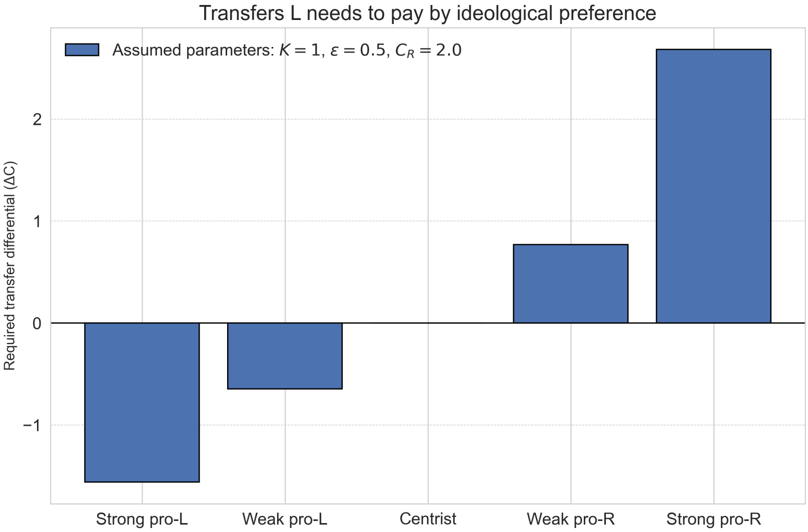
- Higher $\Delta U_i \Rightarrow$ more voters induced to switch from R to L.
- Electoral benefit depends on:
  - $\rightarrow$ Ideological responsiveness: $\phi_i(\Delta U_i)$ (density of swing voters)
  - $\rightarrow$ Marginal utility of consumption: $K_i C^{-\varepsilon}$
  - $\rightarrow$ Delivery efficiency: $(1 - \theta_{ik})$

Crucial result: Transfers are most effective when voters are poor, ideologically moderate, and easy to reach.

Illustrating voters' decision problem



Illustrating voters' decision problem (cont'd)



Dixit and Londregan, 1996: The politician's problem

Objective: Each party chooses transfers to voter groups to maximise expected vote share, taking the rival's strategy as given.

Party L's problem:

$$\max_{\{T_{iL}\}} \sum_i N_i \cdot \Phi_i \left(U_i((1-\theta_{iL})T_{iL}) - U_i((1-\theta_{iR})T_{iR}) \right)$$

Subject to:

$$\sum_i N_i T_{iL} = B \quad \text{(simplified)}$$

Interpretation: Party L seeks to allocate its budget across groups to move the ideological cutpoints ΔU_i in its favour — but must do so efficiently given diminishing marginal returns, ideological resistance, and leakage.

Dixit and Londregan, 1996: Solving the politician's problem

$$\mathcal{L} = \sum_i N_i \cdot \Phi_i(\Delta U_i) + \lambda \left(B - \sum_i N_i T_{iL} \right)$$

Note: $\Delta U_i \equiv U_i((1-\theta_{iL})T_{iL}) - U_i((1-\theta_{iR})T_{iR})$ is the difference in consumption utility between L and R.

Differentiate w.r.t. T_{iL}:

$$\frac{\partial \mathcal{L}}{\partial T_{iL}} = N_i \cdot \phi_i(\Delta U_i) \cdot U_i'((1-\theta_{iL})T_{iL}) \cdot (1-\theta_{iL}) - \lambda N_i = 0$$

$$\Rightarrow \phi_i(\Delta U_i) \cdot U_i'(C_i) \cdot (1-\theta_{iL}) = \lambda \quad \text{where } C_i = (1-\theta_{iL})T_{iL}$$

Plug in CRRA utility: $U_i(C_i) = \frac{K_i C_i^{1-\varepsilon}}{1-\varepsilon} \quad \Rightarrow \quad U_i'(C_i) = K_i C_i^{-\varepsilon}$

Final form of the FOC:

$$\boxed{\phi_i(\Delta U_i) \cdot K_i C_i^{-\varepsilon} \cdot (1-\theta_{iL}) = \lambda}$$

Dixit and Londregan, 1996: Interpreting the FOC

Each group i generates a *marginal political return* per dollar spent:

$$\phi_i(\Delta U_i) \cdot K_i C_i^{-\varepsilon} \cdot (1 - \theta_{iL})$$

Terms in this expression:

- $\phi_i(\Delta U_i)$: ideological moderation $\rightarrow$ density of swing voters
- $K_i C_i^{-\varepsilon}$: marginal utility of consumption (higher when group is poorer or more materialistic)
- $(1 - \theta_{iL})$: delivery efficiency (less leakage in reaching this group)

Implication: Party L equalises the marginal vote gain per dollar across groups it invests in:

$$\boxed{\text{Target if and only if return } \geq \lambda}$$

Dixit and Londregan, 1996: What does equilibrium look like?

Setting: Each party chooses transfers to maximise vote share, taking the other's strategy as given.

Equilibrium concept: Nash equilibrium in pure strategies

- Party L chooses $\{T_{iL}\}$ to maximise its vote share, given $\{T_{iR}\}$.
- Party R chooses $\{T_{iR}\}$ to maximise its vote share, given $\{T_{iL}\}$.

Existence: A Nash equilibrium exists under standard assumptions:

- $\Phi_i(\cdot)$ continuous and differentiable $\Rightarrow$ smooth vote response
- Utility is strictly concave in C $\Rightarrow$ concave objective
- Budget constraint is linear $\Rightarrow$ convex feasible set

Implication: The model yields a stable allocation of transfers — a strategy profile where neither party wants to deviate unilaterally.

Dixit and Londregan, 1996: Swing vs. core logic in equilibrium

1. **Symmetric case (swing voter logic):**
   - If $(\theta_{iL} = \theta_{iR})$ for all i, then both parties are equally good at delivering transfers.
   - Equilibrium allocations favour *swing voters*: $\phi_i(\cdot)$ is large and $K_i C_i^{-\varepsilon}$ is high
   - Parties compete for voters near the ideological centre who are highly responsive to transfers (the ideologically moderate poor or materialists).
2. **Asymmetric case (core supporter logic):**
   - If one party has a clear advantage in delivering to its base (e.g. $\theta_{iL} \ll \theta_{iR}$ for a given i),
   - It may focus on *core groups* where it can mobilise support more efficiently.
   - The other party avoids "fighting on unfavourable ground."

Bottom line: Swing voters are favoured only when both parties are on equal footing — otherwise, parties fall back on their loyal base.

Empirical illustrations and implications

Swing voter logic in action:

- **US Garment Industry:** Bipartisan trade protection (e.g. Multi-Fiber Arrangement) targeted swing states with low-wage, moderate voters (e.g. North Carolina, Pennsylvania) (Dixit and Londregan, 1995).

Core support logic in action:

- **Japan (LDP era):** Municipalities with strong electoral support for the ruling party received larger discretionary grants (Catalinac, 2025; Catalinac, Bueno De Mesquita, and Smith, 2020).
- **Tammany Hall (NYC):** Democratic machine provided targeted social assistance to loyal working-class ethnic blocs (e.g. Irish, Italians) through dense party networks.

Implication: Swing targeting emerges under symmetric conditions. But when parties have delivery advantages, core groups are safer, more efficient investments.

What does Stokes, 2005 add to the core vs. swing voter debate?

Main contribution: Introduces a **dynamic perspective** and a **commitment problem** in distributive politics, challenging the assumption that swing voters are always the best targets.

- RQ: *Why do politicians often reward core voters if swing voters offer higher marginal returns?*
- Key argument: Distributive promises are not automatically credible — in dynamic settings, voters may accept benefits and defect $\Rightarrow$ **commitment problem**.
- Solution: Parties use social and political networks (e.g., party brokers) to **monitor core voters** and **enforce reciprocity**.

Bottom line: Loyalty enables **accountability**, not the other way around — a logic of *perverse accountability* emerges.

Stokes, 2005: The model's intuition

Setting: A dynamic, repeated-game framework of distributive politics with imperfect enforcement.

- A political machine allocates private goods (e.g., food bags, subsidies) to voters in a district.
- Voters can be:
  - $\rightarrow$ **Loyalists (core voters)**: ideologically aligned, monitored via clientelistic networks
  - $\rightarrow$ **Swing voters**: ideologically flexible but harder to monitor
- Political agents (brokers) observe voter behaviour imperfectly.

Central constraint is *conditionality*: Transfers are only electorally effective if voters believe their actions are being monitored $\Rightarrow$ credible punishment for defection is essential.

Strategic trade-off: Swing voters are tempting but **risky**; core voters offer **monitorable returns** despite lower vote elasticity.

Dynamic game in Stokes, 2005 — Setup and timing

Players:

- **Voters**: choose whether to vote for the machine party ($v = 1$) or not ($v = 0$)
- **Machine**: allocates private goods (t) and determines punishment policy
- **Brokers**: monitor electoral behaviour, but only observe votes with probability p

Timing of the game (repeated across electoral cycles):

1. Machine offers voter a transfer t
2. Voter decides whether to vote for the machine
3. With probability p, broker observes the voter's action
4. If defection ($v = 0$) is observed, punishment s is imposed in the next period
5. Game repeats; voters discount future utility with factor $\delta \in (0, 1)$

Dynamic game in Stokes, 2005 — Voter Incentives

Voter's intertemporal payoff:

- **If compliant (votes for machine):** $U_{\text{vote}} = t + \delta V$
- **If defects (but accepts transfer):** $U_{\text{defect}} = t - p \cdot s + \delta V'$ where V' is future expected utility under punishment (e.g., exclusion from future transfers)

Compliance condition:

$$t + \delta V \geq t - p \cdot s + \delta V' \quad \Rightarrow \quad p \cdot s \geq \delta(V - V')$$

Interpretation: The more observable (p) and costly (s) the punishment, the easier it is to enforce loyalty — especially when voters value the future (δ high).

Equilibrium behaviour and solution concept

Equilibrium concept: Subgame Perfect Equilibrium (SPE)

- The game is dynamic and repeated $\rightarrow$ strategies must be optimal *at every history*.
- SPE rules out non-credible threats (e.g. punishing defection if not observed).
- Machine punishes defections only when they are observed, since punishment is costly and non-strategic otherwise.

Equilibrium behaviour:

- Core voters: comply with vote-buying if $p \cdot s \geq \delta(V - V')$ — sustained by enforceable clientelistic relationships.
- Swing voters: defect more often if p is low or punishment is weak — making them unattractive targets.
- Machines: optimally allocate transfers to voters whose loyalty can be monitored and enforced.

Implication: The clientelistic equilibrium is supported by future threats and local monitoring capacity — hence, *perverse accountability*.

Backward induction (1) — Endgame punishment

Step 1: Final-period punishment decision

- After observing voter defection ($v = 0$), the machine decides whether to punish.
- Punishment (e.g. denial of future transfers) is costly and only worthwhile if it influences future behaviour.
- In the final period: no future to influence $\Rightarrow$ punishment is not credible.

Implication: In a finite game, backward unraveling occurs — unless there is an infinite or indefinite horizon (or reputational concerns).

Backward induction (2) — Voter compliance decision

Step 2: Voter's intertemporal choice

- Voter compares expected utility from:

$$\text{Complying: } U_{\text{vote}} = t + \delta V$$

$$\text{Defecting: } U_{\text{defect}} = t - p \cdot s + \delta V'$$

$\Rightarrow$ Compliance iff: $p \cdot s \geq \delta(V - V')$

Interpretation:

- High monitoring probability (p), strong punishment (s), and long horizons (δ) increase compliance.
- Voters who are unobserved or ideologically distant face weak incentives to reciprocate.

Backward induction (3) — Machine's optimal targeting strategy

Step 3: Machine anticipates compliance

- Knowing p, s, and δ, the machine calculates which voters satisfy the compliance condition:

$$p \cdot s \geq \delta(V - V')$$

- Transfers are offered only to voters for whom this inequality holds.
- These are typically core voters — loyal, monitorable, and embedded in networks.

Subgame Perfect Equilibrium (SPE):

- Voters comply when monitored and facing future loss.
- Machine only targets voters whose compliance is enforceable.
- No actor has an incentive to deviate in any subgame.

Comparative statics in the Stokes model

Compliance condition: $p \cdot s \geq \delta(V - V')$

Key comparative statics:

- **Monitoring probability** $(p) \uparrow \Rightarrow$ easier to enforce compliance
  - $\rightarrow$ Loyalty and dense networks $\Rightarrow$ higher p
- **Punishment severity** $(s) \uparrow \Rightarrow$ strengthens deterrence
  - $\rightarrow$ Denial of future benefits, social ostracism, job loss
- **Discount factor** $(\delta) \uparrow \Rightarrow$ voters more future-oriented
  - $\rightarrow$ Long time horizon makes future punishments more influential
- **Voter loyalty (indirectly):** Loyal voters embedded in party networks $\Rightarrow$ higher p and longer relationships $\Rightarrow$ compliance more enforceable

Bottom line: When p, s, or δ are low, targeting swing voters becomes too risky; stable clientelism requires monitorable and patient core voters.

Beyond persuasion (Cox, 2010)

Core contribution: Existing models treat parties as *vote buyers via persuasion*.

- **Persuasion:** Changing how people vote, holding turnout and ballot structure fixed.
- **Mobilisation:** Increasing turnout among likely supporters.
  $\rightarrow$ Voter h participates only if benefits outweigh voting costs.
- **Coordination:** Shaping which parties appear on the ballot.
  $\rightarrow$ Reducing competition from ideologically similar entrants.

Vote-maximising parties thus face three strategic levers:

$$\text{Votes from group } j = \underbrace{Q_j}_{\text{Turnout}} \cdot \underbrace{S_{jL}}_{\text{Preference share}} \cdot \underbrace{1/M_j}_{\text{Ballot coordination}}$$

Key claim: When **mobilisation** or **coordination** matter more than persuasion, core voters become more attractive targets than swing voters.

Formal setup: Generalised vote function (Cox, 2010)

Objective: Generalise vote shares to reflect all three strategic mechanisms.

Vote share from group j for party L:

$$P_{jL}(t_L, t_R) = \underbrace{Q_j(t_L, t_R)}_{\text{Turnout}} \cdot \underbrace{\frac{S_{jL}(t_L, t_R)}{M_j(t_L, t_R)}}_{\text{Vote split among left-aligned parties}}$$

- $Q_j(\cdot)$: Turnout rate in group $j \rightarrow$ affected by mobilisation efforts (e.g. GOTV campaigns, selective incentives).
- $S_{jL}(\cdot)$: Share of participating voters in j who prefer L to $R \rightarrow$ affected by persuasion.
- $M_j(\cdot)$: Number of left-aligned parties competing in group j's ideological space $\rightarrow$ affected by coordination.

Special cases: If $Q_j = 1$ and $M_j = 1$, reduces to standard persuasion model. If S_{jL} is fixed, model captures pure mobilisation/coordination dynamics.

Comparative statics (1): Mobilisation vs. persuasion

Persuasion logic: ($\partial S_{jL} / \partial t_L$ is large)

- Small transfers shift vote preferences — high marginal return.
- Works best when:

  $\rightarrow$ Voters are ideologically indifferent (swing),

  $\rightarrow$ Turnout and ballot structure are fixed.

Mobilisation logic: ($\partial Q_j / \partial t_L$ is large)

- Transfers raise turnout among already supportive but inactive voters.
- Core groups are ideal targets when:

  $\rightarrow$ They're loyal (high S_{jL}),

  $\rightarrow$ But their turnout Q_j is low yet elastic.

Strategic trade-off: If mobilization potential > persuasion gain, target core.

Comparative statics (2): Coordination and party fragmentation

Vote share dilution: More parties on the same side $\rightarrow$ lower effective support:

$$P_{jL} = Q_j \cdot \frac{S_{jL}}{M_j} \quad \text{where } M_j = \text{\# of left-aligned parties in group } j$$

Coordination logic:

- Transfers can induce:
  - $\rightarrow$ Party withdrawal or non-entry,
  - $\rightarrow$ Intra-party cohesion,
  - $\rightarrow$ Avoidance of rival defection (e.g. breakaway factions).
- Coordination most relevant when:
  - $\rightarrow$ The group is ideologically aligned (S_{jL} high),
  - $\rightarrow$ But vote-splitting (high M_j) threatens effectiveness.

Implication: Transfers to core groups can **secure loyalty** and **deter fragmentation**, increasing net vote share even without persuasion.

Some final remarks on the demand side – for now

Recall: We have extensively discussed different strategic rationales for targeting different segments of the electorate.

What we haven't discussed, however, is how politicians target whatever segment is electorally most beneficial for them

Implicit assumption is often that we are talking about plain cash transfers, but this is by no means the modal empirical case.

RQ: What is the empirical variation in transfers (cross-sectionally and temporally)? How can we categorise it? What explains this variation?

Institutional variation

The supply side of distributive politics: Overview

Transfers also play a crucial role in creating and sustaining coalitions at the elite level (the "supply side").

The elite level is comprised of at least **three types of actors**:

1. Parties / legislators (also sub-nationally)
2. Bureaucrats (have to ignore given time constraints)
3. Interest groups (mostly next lecture)

The other critical question we will examine is: **what types of constraints** do policymakers face in designing and administering transfers – in addition to budget constraints?

Legislative coalitions and distributive politics (Shepsle and Weingast, 1981)

Question: Why do legislators consistently form **large (even unanimous)** coalitions to support pork-barrel spending — despite their inefficiency/wastefulness?

Puzzle: Minimal winning coalitions (MWCs) are efficient — fewer legislators share the costs. But in practice, votes on distributive projects often receive broad, cross-party support.

Answer: Legislators prefer **universalistic coalitions** because they provide **insurance** against exclusion from future benefits.

- Pork is politically valuable even when inefficient (brings visible local gains).
- Costs are diffuse across all districts via general taxation.
- Universalism reduces uncertainty — legislators avoid the risk of being left out of MWCs.

Model setup: Preferences over projects and coalitions

Actors: n legislators, each representing one district.

Policies: Project bundles $x = (x_1, \ldots, x_n)$, where $x_j = 1$ if district j gets a project, 0 otherwise.

- Each project has **benefit** $b(x_j)$ to district j.
- It also produces local spending $c_1(x_j)$ and possible externalities $c_3(x_j)$.
- **Cost sharing:** Total cost is taxed across all districts $\rightarrow$ legislator j pays share t_j.

Net political utility for legislator j:

$$U_j(x) = b(x_j) + c_1(x_j) - c_3(x_j) - t_j \cdot T(x)$$

Objective: Each legislator wants to maximise $U_j(x)$.

Two institutional regimes: Majority Rule vs Universalism

1. Majority Rule (MR):

- Coalition of size $w = \lceil \frac{n+1}{2} \rceil$ passes spending package.
- Each legislator has $1/n$ probability of inclusion.
- Only w districts receive projects.

Expected utility under MR:

$$E_j(MR) = \frac{1}{n}\left[N(x_j) + \frac{n-1}{w-1}(c_{2j} - t_j T)\right]$$

2. Universalism (U):

- All districts get projects; all pay taxes.

Expected utility under U:

$$E_j(U) = N(x_j) + \frac{n-1}{w-1}(c_{2j} - t_j T)$$

Universalism Theorem (Shepsle and Weingast, 1981)

Main result: Legislators **prefer universalism** to majority-rule coalitions if:

$$E_j(U) > E_j(MR) \quad \forall j$$

Under symmetry (equal benefits/costs), this reduces to:

$$b(x_j) > c_3(x_j)$$

- Note: This is a **weaker** condition than economic efficiency ($b > c_1 + c_3$).
- Legislators support projects even when they **fail efficiency tests** — as long as they produce visible benefits and have minimal external harm.

Why universalism survives:

- Eliminates exclusion risk. Each legislator receives guaranteed local gains.
- Shared cost structure blunts fiscal pain.

Political interpretation: Universalism as risk-hedging

Why do inefficient projects get near-unanimous support?

- **Legislators are risk-averse:** They fear being left out of MWCs, which would mean *no local benefits* but *shared costs*.
- **Universalism = insurance:** Every district gets “pork” $\Rightarrow$ political credit at home.
- **Costs are spread thinly:** Voters rarely connect small tax shares to specific projects.

Implication: Legislators rationally support economically wasteful policies because the **political logic of inclusion dominates the economic logic of efficiency**.

Shepsle-Weingast bottom line

The distributive state reflects stable political preferences for universalism — not failures of discipline.

Connecting back: Logrolling, risk, and redistribution

Universalism builds on prior concepts:

- **Logrolling:** Legislators vote for others' projects in exchange for support on theirs — institutionalised mutual back-scratching.
- **Risk aversion (cf. Cox and McCubbins, 1986):** Politicians hedge against uncertainty by favouring predictable gains (core voters, own districts).
- **Credibility (cf. Stokes, 2005):** In legislatures, the equivalent of "monitorability" is **institutional transparency and vote tracking** — reinforcing incentives for universalism.

Key difference: Voters cannot coordinate redistributive coalitions — but legislators can. Institutional rules enable political insurance via universalism.

Drazen and Ilzetzki, 2023: Pork as a legislative signal

Core idea: Pork is used not just to buy votes, but to **signal the quality of public goods proposals** in the legislative process.

Setup:

- Agenda setter (AS) has private information about the value of a proposed public good.
- Legislators are uncertain — must decide whether to support the proposal. AS offers pork-barrel side payments to induce support.

Mechanism: Offering pork is **costly**, so only high-value proposals are worth "greasing" the wheels for (Evans, 2004). Pork thus becomes a **credible signal** of proposal quality.

Implications:

- Some good policies fail because AS *chooses not to use pork*, to preserve credibility.
- Tight institutional restrictions on pork can backfire by **reducing legislative information**.

Catalinac, Bueno De Mesquita, and Smith, 2020: Tournament theory, strategic coordination, and the limits to wastefulness

Core idea: Pork is distributed using a **tournament logic** — only top-performing municipalities (in electoral support) receive significant post-election rewards.

Mechanism: Incumbents rank municipalities by vote share received.

- **Convex payoff structure:** Marginal increases in support yield disproportionately large rewards at the top. Rewards are **excludable** and distributed **after** the election, overcoming the secrecy of the ballot.

Strategic implication: traps municipalities in a district in a **collective action problem**

- If all mobilise, they might win pork. But mobilisation is costly $\rightarrow$ defection (low turnout) which weakens their rank, punishing the whole district.

Empirical case: Japan (1980–2000) — LDP rewarded municipalities with the greatest increases in support, especially in districts with fragmented localities.

Golden and Nazrullaeva, 2023: Why does clientelism persist?

Puzzle: Why do politicians persist with **costly, inefficient clientelism** even when it's electorally ineffective?

Key argument: Clientelism is a political prisoner's dilemma.

- Politicians fear losing out if others engage in clientelism and they do not.
- Voters become conditioned to expect it — leads to equilibrium persistence.

Implications:

- Clientelism persists not because it works well, but because **no actor wants to unilaterally exit**.
- Reform requires **collective action** or **institutional enforcement**.

Transfers as elite side payments

Core idea: Transfers are often used to **buy political support** among legislators — not just voters.

Mechanism: Policymakers need to assemble winning coalitions in legislatures or executive cabinets. They use:

- **Targeted local spending** (district-specific pork)
- **Committee appointments**, ministerial posts
- **Regulatory exemptions**, concessions to sectoral allies

Logic: Transfers operate as **currency in elite bargaining** — compensating actors who might otherwise block policy, or rewarding loyalty.

Transfers to organised interests: Buy-in and coalition durability

Beyond legislators: Transfers also help cement alliances with powerful **interest groups**, which contribute electoral, financial, or mobilisational support.

Mechanism: Politicians use:

- **Trade protection, subsidies, procurement** to reward firms, industries, or unions.
- **Regulatory favours** to secure support or prevent opposition.
- **Repeated transfers** to maintain long-term political alliances.

Illustrative references:

- **Grossman and Helpman, 1994:** Policy reflects a weighted average of social welfare and political contributions — organised sectors get favourable treatment.
- **Mcgillivray, 2004:** Leaders “lock in” coalitions by privileging clienteles — even inefficient ones — to protect political survival.

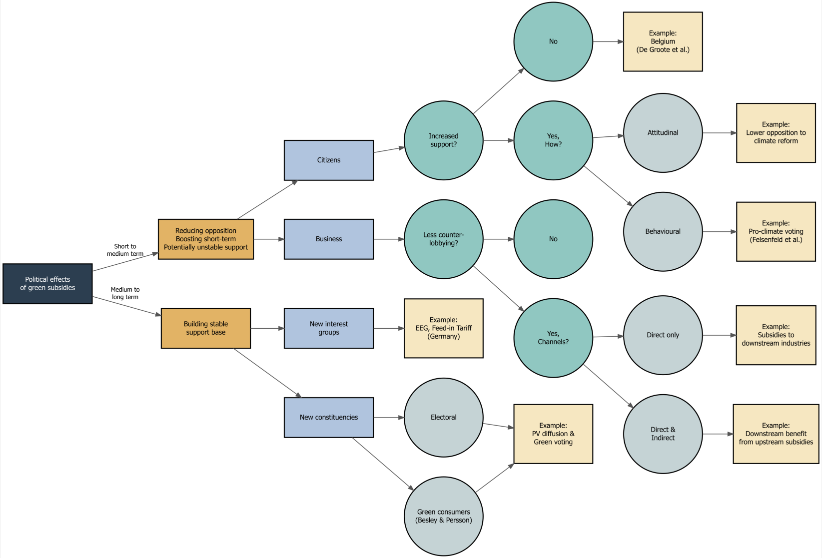
Targeted transfers – a dual-purpose technology?

Transfers serve two political purposes — shoring up the support of voters and elites - and each imposes different informational and institutional demands.

These objectives can operate over different time horizons – something that doesn't receive all that much attention in the formal attention, but matters in real-world policymaking (see next slide).

But in pursuing both objectives policymakers face a core problem: Even if you know whom to target conceptually, often governments lack the data or data-processing capacities to do so. How does this affect instrument choice?

A worked example: The distributive politics of green subsidies



Informational boundaries of the state and the energy crisis (Fetzer, Shaw, and Edenhofer, 2024)

- Traditional accounts of state capacity emphasise fiscal or extractive power — e.g., tax collection, public finance, or legal coercion.
- This paper examines a neglected dimension: informational capacity.
  - → Defined as the state's ability to **gather, process, and act upon granular data** about citizens and firms.
  - → Especially important during heterogeneous shocks (e.g., energy crisis, pandemic) where one-size-fits-all responses are suboptimal.
- **Central research question:** *How do informational constraints shape the design of fiscal crisis interventions?*

Context: 2022–2023 energy crisis in the UK and Germany, triggered by global gas price volatility post-Russia's invasion of Ukraine.

Motivation and context

- In 2022, European governments faced a severe energy price shock:
  - → Driven by post-pandemic supply constraints and Russia's invasion of Ukraine.
  - → Natural gas prices surged — disproportionately affecting household budgets.
- Governments responded with vast fiscal support packages — totalling hundreds of billions of euros and pounds.
- **Stylised fact:** Responses were often untargeted and distortionary, despite availability of better tools.
  - → This contradicts classical welfare economics, which recommends targeted, non-distortionary support.
- Case comparison:
  - → **UK:** Introduced the Energy Price Guarantee (EPG) — capped prices across the board.
  - → **Germany:** Used price caps on *quotas* based on past consumption and income — more targeted.

Informational capacity as a state constraint

- Why does informational capacity matter?
  - $\rightarrow$ Shocks like energy crises are **distributionally uneven**.
  - $\rightarrow$ Identifying **who needs support** and **how much** requires high-quality, disaggregated data.
  - $\rightarrow$ Lack of this capacity leads to second-best instruments — such as broad subsidies or blanket transfers.
- In this framework, **informational capacity** is operationalised as $\beta \in [0.5, 1]$:
  - $\rightarrow$ $\beta = 1$: perfect ability to target transfers because household type can be accurately identified.
  - $\rightarrow$ $\beta = 0.5$: random guess of household type.

Basic structure of the model

- A simplified economy with:
  - → Two consumer types: high-income (H) and low-income (L).
  - → Two goods:
    - *Energy* (x) — affected by the crisis.
    - A *composite good* (y) — all other consumption, price normalised to 1.
- A crisis raises the price of energy: from p^{-1} to $p^0 > p^{-1}$.
  - → High-income households can more easily absorb price increases.
  - → Low-income households face serious hardship, especially if heating or cooking costs rise.
- The government must decide how to use a fixed support budget G to protect households.

Policy options and price distortions

- The government has two main instruments:
    1. **Lump-sum transfers** — a fixed amount given to each household (possibly targeted).
    2. **Energy subsidies** — lower the price households pay for each unit of energy.
- Key distinction:
    - → **Lump-sum transfers** do not affect the price of energy.
    - → **Subsidies** distort the price signal — households pay less than the true cost.
- Why does distortion matter?
    - → Prices signal (relative) scarcity. High energy prices encourage conservation and investment in efficiency. If prices are lowered by government, households' incentives for conservation are muted, leading to over-consumption.
    - → This imposes a **deadweight loss**: public money is spent encouraging inefficient behaviour.
- In economic terms: subsidies are **less efficient** than lump-sum transfers — unless lump-sum transfers can't be well-targeted.

Defining household utility

- The model evaluates policy outcomes using a money-based measure of household well-being:

$$U_\theta = g + f_\theta(g_s)$$

- This is the equivalent variation — the income needed to reach the same utility level without the policy.
- Components:
  - $\rightarrow$ g: lump-sum transfer – adds directly to utility.
  - $\rightarrow$ $f_\theta(g_s)$: benefit from subsidies – depends on household type ($\theta \in \{H, L\}$).
- The function $f_\theta(g_s)$ captures how much utility a household gets from the government's energy subsidy.

Intuition behind subsidy benefits

- Why doesn't a subsidy benefit everyone equally?
  - $\rightarrow$ **High-income** households consume more energy $\rightarrow$ receive more subsidy per pound spent.
  - $\rightarrow$ So, $f_H(g_s) > f_L(g_s)$
- But subsidies also reduce efficiency:
  - $\rightarrow$ They distort incentives — households may overconsume energy.
  - $\rightarrow$ This creates deadweight loss — a cost with no social benefit.
- Thus:
  - $\rightarrow$ A pound spent on **lump-sum transfers** yields a full pound of utility.
  - $\rightarrow$ A pound spent on **subsidies** yields <1 pound in total utility and disproportionately benefits the better-off.

The policymaker's optimisation problem

- The policymaker has a fixed budget: $g_s + g_L + g_H = G$ where:
  - $\rightarrow$ g_s: total spending on energy subsidies,
  - $\rightarrow$ g_L, g_H: lump-sum transfers to individuals believed to be low- or high-income types.
- Policymaker's objective:

$$\max \ \mathbb{E}\left[\sum_i \Delta_{\theta_i} \cdot c(U_{\theta_i})\right]$$

  - $\rightarrow$ Δ_{θ_i}: welfare weight placed on type θ_i,
  - $\rightarrow$ $c(\cdot)$: concave function capturing equity and risk aversion.
- Key challenge: the policymaker does not observe types directly.
  - $\rightarrow$ Only sees noisy signals (ω_1, ω_2).
  - $\rightarrow$ Probability of correct classification: $\beta \in [0.5, 1]$.
  - $\rightarrow$ $\beta = 1$: perfect information, $\beta = 0.5$: pure guess.

Trade-offs under informational frictions

- **Benchmark: Perfect information** $\Rightarrow \beta = 1$
  - $\rightarrow$ Policymaker observes household types precisely.
  - $\rightarrow$ Optimal policy: **no subsidies** ($g_s = 0$).
  - $\rightarrow$ All support delivered through **targeted lump-sum transfers**.
  - $\rightarrow$ This avoids price distortions and achieves precise redistribution.
- **As β falls (more uncertainty)**:
  - $\rightarrow$ Targeted transfers become risky — households may be misclassified.
  - $\rightarrow$ Misallocation reduces effectiveness and increases political cost.
  - $\rightarrow$ The policymaker begins to **rely more on subsidies**, despite their inefficiency.
  - $\rightarrow$ Subsidies are **easier to condition on observable traits** like past energy use.
- **Core insight:** Declining informational capacity leads to a shift from targeted to untargeted policies — a trade-off between equity and administrative feasibility.

Solving the policymaker's problem under perfect information

- With $\beta = 1$, the policymaker observes household types exactly.
- Objective:

$$\max_{g_H, g_L, g_s} \quad \Delta_H c(g_H + f_H(g_s)) + \Delta_L c(g_L + f_L(g_s))$$

$$\text{s.t. } g_H + g_L + g_s = G$$

- Set up the Lagrangian: $\mathcal{L} = \Delta_H c(U_H) + \Delta_L c(U_L) + \lambda(G - g_H - g_L - g_s)$
- First-order conditions:

$$\frac{\partial \mathcal{L}}{\partial g_H} = \Delta_H c'(U_H) = \lambda$$

$$\frac{\partial \mathcal{L}}{\partial g_L} = \Delta_L c'(U_L) = \lambda$$

$$\frac{\partial \mathcal{L}}{\partial g_s} = \Delta_H c'(U_H) f_H'(g_s) + \Delta_L c'(U_L) f_L'(g_s) = \lambda$$

Interpreting the first-order conditions

- From the first two conditions: $\Delta_H c'(U_H) = \Delta_L c'(U_L) = \lambda$
- Plug into the third condition: $\Delta_H c'(U_H) f'_H(g_s) + \Delta_L c'(U_L) f'_L(g_s) = \lambda$
- This becomes: $\lambda \left(f'_H(g_s) + f'_L(g_s) \right) = \lambda \Rightarrow f'_H(g_s) + f'_L(g_s) = 1$
- But the model assumes (see next slide): $f'_H(g_s) + f'_L(g_s) < 1 \quad$ for all $g_s > 0$
- Contradiction: this condition cannot be satisfied if $g_s > 0$
- **Conclusion:** Optimal solution requires:

$$g_s = 0$$

Why are subsidies inefficient?

- Recall from the model: $\frac{\partial \mathcal{L}}{\partial g_s} = \Delta_H c'(U_H) f'_H(g_s) + \Delta_L c'(U_L) f'_L(g_s)$
- For subsidies to be optimal, we would need:

  $f'_H(g_s) + f'_L(g_s) = 1$ (assuming equal marginal weights)
- But the model assumes: $f'_H(g_s) + f'_L(g_s) < 1$ for all $g_s > 0$
- **Why?**
  - $\rightarrow$ Subsidies distort the market price for energy — they reduce the private cost below the social cost.
  - $\rightarrow$ Households consume more energy than they would at the true price.
  - $\rightarrow$ This overconsumption creates deadweight loss — a loss of welfare with no gain to anyone.
- Therefore: even if households appear better off, society as a whole is **worse off** per £ spent.

No subsidies under perfect information

Proposition 1

If $\beta = 1$, then the policymaker never uses subsidies:

$$g_s = 0$$

- **Why?**
  - $\rightarrow$ Subsidies distort prices and are less efficient. With perfect information, lump-sum transfers achieve both efficiency and distributional goals.
- **Key insight:**
  - $\rightarrow$ When targeting is precise, distortionary instruments are strictly dominated.
  - $\rightarrow$ There is **no policy rationale** for energy subsidies in this benchmark.
- This sets the stage: any use of subsidies must arise from **imperfect information** or **political incentives**.

The policymaker's problem under imperfect information

- When $\beta < 1$, the policymaker cannot observe types directly.
- She observes noisy signals:
  $\rightarrow$ Probability correct: $\Pr(\text{correct type} \mid \text{signal}) = \beta$
- Cannot condition transfers on true type — only on signal:
  $\rightarrow$ g_h: transfer to individual with "high" signal
  $\rightarrow$ g_l: transfer to individual with "low" signal
- Objective becomes:

$$\max\ \mathbb{E}\left[\Delta_H c(g_h + f_H(g_s)) + \Delta_L c(g_l + f_L(g_s))\right]$$

  $\rightarrow$ taking into account the probabilities of misclassification.
- Informational frictions introduce a new problem: Targeting transfers becomes risky $\Rightarrow$ inefficient but universal subsidies become attractive (low informational capacity needed)

When are subsidies used under uncertainty?

- With $\beta < 1$, lump-sum transfers may be misdirected:
  - $\rightarrow$ Risk of transferring to the wrong type: giving money to those who do not need it or failing to do so to those who do
  - $\rightarrow$ The more similar g_h and g_l, the safer — but less redistributive.
- Policymaker faces a trade-off:
  - $\rightarrow$ **Transfers:** efficient but risk misallocation.
  - $\rightarrow$ **Subsidies:** inefficient, but *safe* — benefit all, and disproportionately high consumers (the rich).
- Who finds subsidies appealing?
  - $\rightarrow$ Policymakers who **favour the rich** — i.e., $\Delta_H > \Delta_L$
  - $\rightarrow$ They gain more utility from policies that benefit high-energy-consuming types.
- So: even if subsidies are inefficient, they may help a regressive policymaker better achieve their political objectives under uncertainty.

When are subsidies used under uncertainty? Result

Proposition 2

Under imperfect information ($\beta < 1$), a policymaker uses subsidies if and only if $\Delta_H > \Delta_L$.

- **Interpretation:**
  - $\rightarrow$ Subsidies disproportionately benefit high-income, high-consumption households.
  - $\rightarrow$ A policymaker who favours those groups is *willing to tolerate inefficiency*.
- **Progressive policymakers** ($\Delta_L > \Delta_H$) never use subsidies:
  - $\rightarrow$ Even with uncertainty, the subsidy is too regressive and too inefficient to be justified.
- **Core insight:**

$$\text{Imperfect information } + \text{ regressive preferences} \Rightarrow \text{distortionary subsidies}$$

Strategic incentives to maintain low information

- We've seen that:
  - $\rightarrow$ With $\beta = 1$: subsidies are never optimal.
  - $\rightarrow$ With $\beta < 1$: subsidies can be attractive to regressive policymakers.
- So what happens if the policymaker can choose β?
  - $\rightarrow$ E.g., by investing in better data infrastructure, digital records, or administrative targeting tools.
- Progressive policymakers:
  - $\rightarrow$ Benefit from raising β: better targeting, more efficient transfers.
- Regressive policymakers:
  - $\rightarrow$ **Prefer low** β – it justifies using subsidies that benefit high-income households.
  - $\rightarrow$ Investing in information **would undermine** their preferred (regressive) policy tools.
- This leads to a political economy of deliberate opacity.

Corollary — no investment in information under regressivity

Corollary

Policymakers with $\Delta_H > \Delta_L$ are **less likely** to invest in raising β — that is, in improving informational capacity.

- **Intuition:**
  - $\rightarrow$ Better data allows for better targeting.
  - $\rightarrow$ But if your preferred policy benefits from bluntness (e.g. subsidies), improving precision is politically costly.
- **Implication:**
  - $\rightarrow$ **Administrative failure** can be politically functional.
  - $\rightarrow$ In some contexts, policymakers may rationally choose to remain ignorant — or keep the state ignorant.

From model to simulations

- The paper tests the theoretical insights using simulations based on UK data.
- Two key goals:
  - $\rightarrow$ Vary β: model different levels of informational capacity via administrative data granularity.
  - $\rightarrow$ Compare observed UK policy (untargeted Energy Price Guarantee) to **counterfactual targeted policies**.
- Simulations show that:
  - $\rightarrow$ Low β leads to inefficient but politically appealing subsidies.
  - $\rightarrow$ High β enables targeted transfers — better outcomes, but administratively demanding.
  - $\rightarrow$ The choice of policy tool depends on **both informational capacity and political alignment**.

Empirical strategy and data

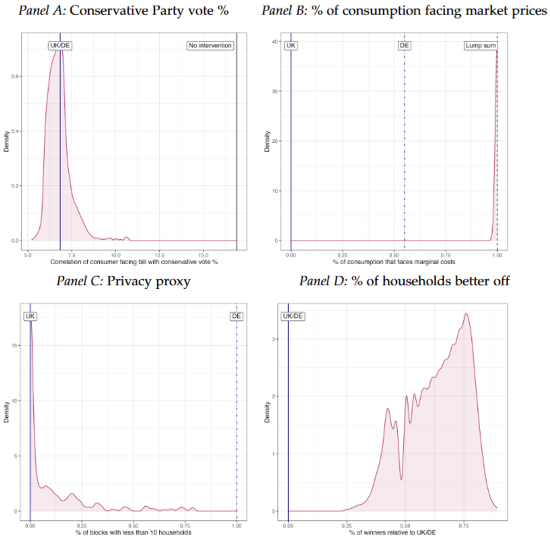
Data sources:

- **Policy documents:** UK Energy Price Guarantee, Germany's Gaskommission plan.
- **Administrative micro-data:** UK postcode-level energy use.
- **Survey data:** Understanding Society — household income, energy bills, political attitudes.
- **Political geography:** Conservative vote share at ward level (2008–2019).

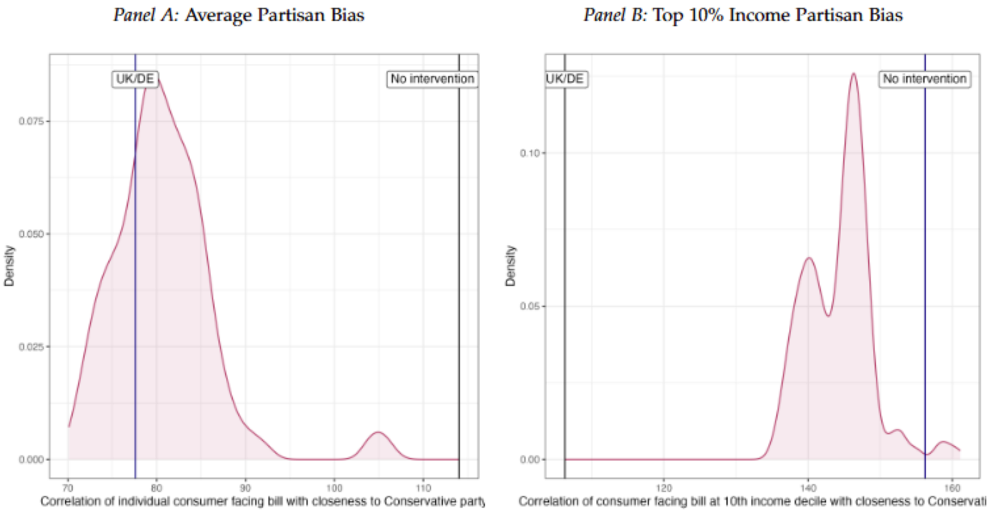
Strategy:

- Simulate alternative policies using actual household data.
- Explore how different levels of targeting (β) affect:
  - $\rightarrow$ Efficiency of support,
  - $\rightarrow$ Distributional impacts,
  - $\rightarrow$ Political responsiveness.

Illustrating the simulation results



Illustrating the simulation results (cont'd)



Outline

Defining terms and situating the lecture in the broader course structure

The general logic of distributive politics

- Demand-side explanations
- Supply-side explanations

The comparative political economy of distributive politics

- Electoral systems and distributive politics
- Extensions: Forms of government and interest group systems

The comparative political economy of distributive politics: Overview

Next session, we will primarily examine how electoral systems shape the incentives for politicians to target different types of voters and interest groups.

We will also briefly discuss how forms of government and interest group systems shape distributive politics.

This paves the way for the session on lobbying and interest group behaviour.

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