Political Economics III, Spring 2019

Part III, Culture, Institutions, and Policy

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Continue but modify theme of last lecture

Then

- analyzed coevolution of cultures and strategic design
- strategic design concerned (political or private) institutions
- designer was a single principal

This week

- continue with coevolution of cultures and strategic design
- but strategic design concerns policy (and spillovers on organization)
- and designers are competing political parties

Two papers

"The Rise of Identity Politics"

- Mimeo, 2019
- how does strategic design of migration policies interact with slow-moving political identities, and endogenously forming social movements and new parties?

"The Dynamics of Environmental Politics and Values"

- forthcoming, *Journal of the European Economic Association*
- how does strategic design of anti-pollution intervention, by political parties, interact with slow-moving environmentalist/materialist values, and how does this modify standard welfare analysis?

The Rise of Identity Politics

Tim Besley and Torsten Persson

Points of departure

Wave of populist, nationalist politics

- across countries and electoral systems, conflicts beyond traditional left-right economic dimension
- partly pushed by new politicians and parties, partly adopted by existing parties
- seeming driving force: globalization, establishment criticism by angry voters, who appear to identify with nation

More general trend

- rise of identity politics and tribalist political behavior
- tied to new non-left-right, non-class-based issues: women's rights, environment, ethnicity, ...

Political dynamics

Changing political landscape among citizens

- authoritarianism-liberalism (GAL-TAN) dimension becoming as salient as traditional economic cleavages (e.g., Kitschelt and McGann 1997)
- new social movements with growing participation express discontent: Tea Party, Pegida, and M5S
- rising support for Trump, Brexit and radical-right parties (e.g., Inglehart and Norris 2017, Gidron and Hall 2018)

Responses in political system

- accommodation by incumbent parties (e.g., Wagner and Meyer 2017)
- entry of challenger parties (e.g., Kitschelt 2018) shake up party systems

Observers mix up drivers and outcomes

Proximate versus fundamental causes

- lack of theory makes drivers of change unclear
- some pinpointed forces, like globalization, long-standing
- others, like social-media usage, more recent

New policies and organizations – outcomes not drivers

- social movements
- strategies of incumbent parties
- entry by new parties

We propose a theory to explore these issues

Essential model elements

a. multi-dimensionality: different political dimensions key
b. non-economic cleavages: related to identity and group
c. explicit dynamics: changes occur in real time, and at certain junctures
d. endogenous organizations: new parties and groups crucial to the process

Key findings

Baseline model

- two class-based parties and two policies: redistribution (economic) and migration regulation (nationalist)
- response by existing parties to nationalist sentiment hinges on economic polarization and nationalist salience
- endogenous evolution of nationalism, where permanent shocks to polarization or salience can change nationalism

Extension with new social groups forming

- hysteresis for temporary shocks via endogenous organization

Extension with new parties entering

- conditions for entry depend on details of electoral system – plurality rule vs. proportional representation
- entry is another channel for legacy effects (hysteresis)

Related to research on identity

Identity and groups in sociology and social psychology

- experimentally-based research in identity theory (Burke 1980, Stryker 1980) and social-identity theory (Tajfel 1974, Tajfel and Turner 1979) on in-groups vs. out-groups
- it does not take much for individuals to adopt group-specific preferences and behaviors
- our approach to individual identities, preferences, and behavior in baseline model relates to findings in this work

Related to recent economics research

Identity and groups in economics

- pioneering research introduced identity in economics (Akerlof and Kranton 2000), and proposed formal model of social identification (Shayo 2009)
- very recent attempts to model rising populism and nationalist policies based on social identification: focus on identity and beliefs (Gennaioli and Tabellini 2018), and on identity and protectionism (Grossman and Helpman 2018)
- our broad purpose similar – with weaker microfoundations, but dynamic rather than static modeling and endogenous rather than fixed political organization

Related to political and sociological research

Huge literature on radical right

- recent Oxford handbook (Rydgren 2018) with broad, up-to-date reviews of different research strands
- deal with various socio-cultural drivers and new nationalistic parties at macro level
- our modeling formalizes some ideas in this research, on behavior of existing parties as well as entry of new parties

Research on social movements

- early work on political mobilization, mostly on early European revolutions (Tilly 1978, Skocpol 1979) and civil-rights movements (McAdam 1982)
- not many applications to mobilizing radical-right groups, though this may be fruitful (Caiani and della Porta 2018)
- think about new groups in our model extension as simple versions of social movement

Related to research on cultural dynamics

Evolutionary anthropology

- cultural evolution of attitudes and preferences (Cavalli-Sforza and Feldmann 1981, Boyd and Richerson 1985)
- we model evolution of social identities in similar fashion

Our own recent work

- on organizational cultures and democratic values (Besley and Persson 2018, 2019)
- there, culture as social identity coevolves with strategic institutional design by single principal
- here, social identity coevolves with strategic policy design in electoral competition, and with new groups and parties

Roadmap

1. **Nationalist identities and policy**
2. Endogenous nationalism
3. Nationalist groups
4. Nationalist parties
5. Final remarks

Key building blocks in baseline model

Two economic groups

- the "poor" and the "rich"

Two social identities

- people identify as "nationalist" or "cosmopolitan"

Two dimensions of government policy

- redistributive policy and immigration policy

Two parties

- compete for office in election where everybody votes

Economic groups

Two homogenous groups

- everyone belongs to one of these groups, which have equal shares of population
- $J = 1$ denote the poor, with income y^1
- $J = 2$ denote the rich, with income $y^2 > y^1$
- in economic (left-right) dimension, groups have opposite preferences (below), by their exogenous income differences

Redistributive policy dimension

Policy instrument

- an income tax – at rate $t \in [0, 1]$ – pays for lump-sum transfers or welfare-enhancing government spending

Policy preferences

- represent by $\overline{U}^J(t)$, group-specific indirect-utility function
- could be derived from 1st principles: distorted labor-lesiure choice or tax price for government spending
- to simplify, assume each economic group has well-defined interior optimum t^J such that $t^1 > t^2$, as $y^1 < y^2$
- moreover, let $\overline{U}^J(t) = U(t - t^J)$, be a loss function, *symmetric* in distance from the bliss point – sometimes

$$U(t) = -\left|t - t^J\right|$$

- distance of bliss points $t^1 - t^2$ grows with income inequality $y^2 - y^1$, which can shift in analysis to follow

Social identities

Voters (and politicians) hold a certain social identity

- at s, they identify either with nationalists, N, or cosmopolitans, C
- these identities translate into opposite preferences (below) in nationalist dimension
- dynamic analysis: how do these identities change over time?

Assumptions

- a common proportion of nationalists μ_s in groups $J \in \{1, 2\}$ (due to symmetry assumptions)
- some are "irreducibly" nationalist and cosmopolitan, with (possibly small) shares $\underline{\mu}$ and $1 - \overline{\mu}$
- we assume $\underline{\mu} < \overline{\mu}$, so $\overline{\mu} - \underline{\mu}$ is maximal cultural leverage for nationalism (μ_s bounded between $\underline{\mu}$ and $\overline{\mu}$)

Nationalist policy dimension

Policy instrument

- another policy choice $x \in [0, 1]$, think openness to migration

Policy preferences

- nationalists N prefer $x = 0$, but cosmopolitans C prefer $x = 1$
- capture by decreasing, convex payoff functions with $W(1 - x)$ for C and $\theta W(x)$ for N
- θ is (relative) "salience" of this dimension among nationalists – could represent beliefs about migrants

Overall policy preferences

Cosmopolitans

- adding two (separable) dimensions above, policy preferences of cosmopolitans from group J are

$$V^{C,J}(t,x) = U(t - t^J) + W(1 - x)$$

Nationalists

- have overall group-specific policy preferences

$$V^{N,J}(t,x) = U(t - t^J) + \theta W(x)$$

Polarization and key assumption

Define economic polarization

$$z = U\left(0\right) - U(t^1 - t^2)$$

- utility gain – for rich or poor voter – from group's own preferred policy rather than preferred policy of the out-group.
- symmetry implies that $U\left(t^1 - t^2\right) = U\left(t^2 - t^1\right)$
- we assume

$$z > W\left(0\right) - W\left(1\right)$$

cosmopolitans always prefer to vote on the basis of their income

Politics

Three steps

1. introduce the political parties
2. explain nature of electoral competition
3. study political equilibrium

Political parties

Two traditional parties

- take these and their features as exogenous
- formed around traditional redistributive conflict
- $J = 1$ represents the poor, $J = 2$ represents the rich
- each run by economic-class citizen-candidates, who are *cosmopolitans*

Electoral competition

Electoral platforms

- in each period s, each party offers platform $\{t_J, x_J\}$ to maximize expected utility of its economic group $E[U(t - t^J) - W(1 - x)]$
- only credible redistributive policies allowed: $t_J = t^J$
- *can commit* to migration policy x_J (but see extensions)

Loyal voters

- all poor (rich) cosmopolitans vote for party 1 (2) – loyal voters

Swing voters

- nationalists vote for party offering highest utility, *modulo* random-utility shocks: probabilistic voting model (Lindbeck and Weibull 1987, Persson and Tabellini 2000)

Swing-voter utilities and behavior

Group-specific swing-voter payoffs

- let v_J^K be swing-voter utility offered by party J, to group K nationalist members:

$$v_J^K(t_J, x_J) = U(t^J - t^K) + \theta W(x_J)$$

Vote calculus and shocks

- nationalist from group 1 (the poor) votes for party 1 if

$$v_1^1 + \omega + \eta \geq v_2^1$$

  idiosyncratic ω, *symmetric* c.d.f. $H(\omega)$ unimodal p.d.f. $h(\omega)$, *aggregate* η, *log-concave*, *symmetric* c.d.f. $G(\eta)$
- symmetry implies equal nationalist share among poor and rich

Total swing-voter utilities offered by parties

$$\begin{aligned} v(x_1) &= \frac{1}{2}(v_1^1 + v_1^2) = \frac{1}{2}[U(0) + U(t^1 - t^2)] + \theta W(x_1) \\ v(x_2) &= \frac{1}{2}(v_2^1 + v_2^2) = \frac{1}{2}[U(t^2 - t^1) + U(0)] + \theta W(x_2) \end{aligned}$$

Probabilities of winning and objectives

By symmetry, parties win election with probabilities

$$P(x_1, x_2) = G(v(x_1) - v(x_2)) = G(\theta(W(x_1) - W(x_2))$$

$$1 - P(x_1, x_2) = G(\theta(W(x_2) - W(x_1))$$

Reformulate party problems

- write surpluses of parties

$$\begin{aligned} Z^1(x_1, x_2) &= z + W(1 - x_1) - W(1 - x_2) \\ Z^2(x_1, x_2) &= z + W(1 - x_2) - W(1 - x_1) \end{aligned}$$

- party-1 objective function is just

$$P(x_1, x_2) Z^1(x_1, x_2)$$

Political equilibrium

$$\left\{\widehat{P}\left(\theta, z\right), \widehat{x}_1\left(\theta, z\right), \widehat{x}_2(\theta, z)\right\}$$

- win probability (for party 1), and pair of immigration policies

Study Nash equilibrium $\{x_1, x_2\}$ for symmetric party problems

$$\begin{aligned} x_1 &\in \arg\max_{x\in[0,1]} \left\{[Z^1(x_1, x_2)]\, G[\theta(W(x_1) - W(x_2)]\right\} \\ x_2 &\in \arg\max_{x\in[0,1]} \left\{[Z^2(x_1, x_2)]\, G[\theta(W(x_2) - W(x_1)]\right\} \end{aligned}$$

Existence and uniqueness

- the electoral game is log supermodular

Lemma 1 *A Nash equilibrium exists and is unique.*

Policy complementarities

Supermodularity implies strategic complementarity

- migration policies offered by parties to please nationalist swing voters are strategic complements, for two reasons
- tougher migration policy – lower x by one party – raises polarization, and induces other party to compete harder
- if one party pleases nationalists, it reduces other party's probability of winning, which lowers cost of promising tougher migration policy

Characterize equilibrium policy

Key trade off

- symmetry gives parties identical trade-off in choice of x – higher win probability vs. cost of pleasing nationalists
- powerful motive to win, by low x, if z high – large redistributive gain – and/or θ high – attract more nationalists
- define decreasing function $h(m)$ from $\frac{W'(1-h(m))}{W\prime(h(m))} = m\frac{g(0)}{G(0)}$ for $m \in [\underline{m}, \bar{m}]$, where $\bar{m} = \frac{W'(1)}{W'(0)} / \frac{g(0)}{G(0)}$ and $\underline{m} = \frac{W'(0)}{W'(1)} / \frac{g(0)}{G(0)}$

Proposition 1 *Optimal electoral strategies $\widehat{x}(\theta, z)$ the same for both parties and given by*

$$\widehat{x}(\theta, z) = \begin{cases} 0 & \theta z \geq \bar{m} \\ h(\theta z) & \theta z \in (\underline{m}, \bar{m}) \\ 1 & \theta z \leq \underline{m} \end{cases}$$

Interpretation

Corollary *Parties set stricter immigration policy – x closer to 0 – when nationalistic salience θ higher and economic polarization z higher (inequality greater), subject to interaction of these parameters*

- polarization alone not enough: sufficiently many nationalist voters have to be attracted by stricter immigration regulations
- salience alone not enough: parties have to care sufficiently about redistributive gains from winning to cater to nationalists

Roadmap

1. Nationalist identities and policy
2. **Endogenous nationalism**
3. Nationalist groups
4. Nationalist parties
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Timing in period s

Now allow μ to be endogenous

1. Polity enters s with share μ_s of nationalists in the current generation.
2. Parties offer platforms $\{t^1, x_{1,s}\}$, $\{t^2, x_{2,s}\}$.
3. Individual and aggregate shocks ω and η realized.
4. Election held where party 1 wins with probability $\hat{P}(\theta, z)$.
5. Payoffs realized.
6. Next generation of citizens decide to identify as nationalists or cosmopolitans. This determines μ_{s+1}.

Fitness of nationalists

Expected payoff difference of nationalists and cosmopolitans

- given θ, z, equilibrium $\left\{\widehat{P}(\theta, z), \widehat{x}_1(\theta, z), \widehat{x}_2(\theta, z)\right\}$ implies

$$\Delta(\theta, z) = \theta W(\widehat{x}(\theta, z)) - W(1 - \widehat{x}(\theta, z))$$

Function $\Delta(\theta, z)$

- constant over time as long as θ, z are
- more likely to take positive value if $z\theta$ higher (x lower), e.g., if $\theta = 1$

$$\Delta(\theta, z) \gtreqless 0 \quad \text{as} \quad \widehat{x}(\theta, z) \lesseqgtr \frac{1}{2}$$

Darwinian dynamics

Dynamics of social identification follow a "revision protocol"

$$\mu_{s+1} - \mu_s = (1 - \mu_s)\,\varsigma^{C,N} - \mu_s \varsigma^{N,C} \text{ for } \mu \in [\underline{\mu}, 1 - \bar{\mu}]$$

$$\varsigma^{C,N} > 0 \Longleftrightarrow \Delta > 0 \text{ and } \varsigma^{N,C} > 0 \Longleftrightarrow \Delta < 0$$

- recall shares $\underline{\mu}$ of irreducible nationalists and $1 - \bar{\mu}$ of irreducible cosmopolitans

Benchmark

The steady states characterized in

Proposition 2 *For all* $\mu \in [\underline{\mu}, 1-\bar{\mu}]$, *the dynamics have two forms*

1. *If* $\Delta(\theta, z) > 0$ *the polity converges to maximal nationalism* $\bar{\mu}$ *from any starting point* μ
2. *If* $\Delta(\theta, z) < 0$ *the polity converges converges to minimal nationalism* $\underline{\mu}$ *from any starting point* μ

This result driven by (expected) policy

- nationalism grows (shrinks) when θ and z high (low)

Comparative steady states

Permanent shocks with cultural consequences

- to polarization z, and salience θ

Can use to think about trends in nationalist sentiment and policy

- in this baseline model, only link from (expected) x to μ
- permanent z and θ shocks may change sign of $\Delta(\theta, z)$ and thus dynamics of μ
- will see correlation: high nationalism, strict migration control
- but more interesting if nationalism μ feeds back to policy x
- we now turn to such situations

Endogenous political organization

Focus on two instances

- nationalist groups (straightforward)
- nationalist parties (more involved)

In both cases, nationalism μ feeds back to policy x

- produces hysteresis and possibility of multiple steady states
- creates two-way dynamics of μ and x

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Nationalist social groups

Examples

- Tea Party, Pegida, M5S, ...
- engage members via information transmission, organization of rallies and protests, etc.
- social groups act like "echo chambers"
- may enhance sense of collective social identity, as in theory of mobilizing social movements by political sociologists

In our model

- forming such group has fixed (sunk) per-capita cost F/μ
- all or no nationalists form a group (by homogenous costs)
- group makes nationalist salience higher among members than when they identify individually as nationalists
- political parties have stronger incentives to adapt policy to preferences of group members

Preferences of group members

Suppose all nationalists have formed a social group (movement)

- payoff of group member from income class K

$$v_J^K\left(t_J, x_J\right) + U(t^J - t^K) + \theta W\left(x_J\right) + \int_i \xi\left(i\right) v_J^L\left(t_J, x_J\right) di$$

- internalizes welfare of other group members whatever their income class

$$\xi(i) = \begin{cases} \xi \text{ if } i \in N \\ 0 \text{ if } i \notin N \end{cases}$$

- ξ reflects strength of social ties/cohesion – the group's collective identity

Simple modification of political model

Can rewrite swing-voter preferences

- for each income class $K = 1, 2$

$$v(x_J) = (1 + \mu\xi)\{\frac{1}{2}[U(0) + U(t^1 - t^2)] + \theta W(x_J)\}$$

- clearly, higher nationalist share μ intensifies preferences, more so the stronger collective identity ξ

New party objectives

$$P(x_1, x_2) = G[v(x_1) - v(x_2)] = G[\Theta(\mu)(W(x_1) - W(x_2))]$$

- modified salience $\Theta(\mu) = (1 + \xi\mu)\theta$ increasing in μ (and ξ)
- earlier results apply with $\Theta(\mu)$ replacing θ

Timing

In given period, for fixed μ

1. Starts out with share of nationalists μ, salience θ and economic polarization z.
2. Nationalists choose whether to form a group, at per-capita cost F/μ.
3. Parties offer platforms $\{t^1, x_1\}$, $\{t^2, x_2\}$.
4. Individual and aggregate shocks ω and η realized.
5. Election held where party 1 wins with probability $\hat{P}(\theta, z)$ or $\hat{P}(\Theta(\mu), z)$
6. Payoffs realized.

Equilibrium group entry

Proposition 3 *As $F \to 0$, a sufficient condition for a group to form is that*

$$\mu > \left[\frac{\underline{m}}{\theta z} - 1\right] \frac{1}{\xi}$$

- worthwhile for group to form once μ large enough to influence policy
- interesting case is when policy without a group has $x = 1$, and

$$(1 + \xi\mu)\,\theta z > \underline{m} > \theta z$$

- then organization of group leads to stricter policy $x < 1$, by increasing the collective leverage of nationalists

Cultural dynamics

1. Polity arrives to period s with given nationalist share μ_s equally split among rich and poor, salience θ, and economic polarization z.
2. Nationalists choose whether to form a group at per-capita cost F/μ_s (or abandon a pre-existing group).
3. Parties offer platforms $\{t^1, x_{1,s}\}$, $\{t^2, x_{2,s}\}$.
4. Individual and aggregate shocks ω and η realized.
5. Election held where party 1 wins with probability $P(\theta, z)$ or $\hat{P}(\Theta(\mu), z)$.
6. Payoffs realized.
7. Next generation of citizens decide to identify as nationalists or cosmopolitans. This determines μ_{s+1}.

Equilibrium fitness

The advantage to being a nationalist

- if a group has formed

$$\Delta\left(\Theta\left(\mu\right),z\right)=\theta W(\widehat{x}\left(\Theta\left(\mu\right),z\right))-W(1-\widehat{x}\left(\Theta\left(\mu\right),z\right))$$

- we have

$$\Delta\left(\Theta\left(\mu\right),z\right)>\Delta\left(\theta,z\right)$$

- group formation encourages nationalism

Steady states

Proposition 4 *If* $\bar{\mu} > \left[\frac{m}{\theta z} - 1\right] \frac{1}{\xi} > \underline{\mu}$, *there are three cases:*

1. *If* $\Delta\left(\Theta\left(\bar{\mu}\right), z\right) < 0$, *monotonic convergence to unique minimal-nationalism steady-state* $\mu = \underline{\mu}$ *for all* μ_0. *No nationalist group forms (if one exists, it is disbanded).*
2. *If* $\Delta(\theta, z) > 0$, *monotonic convergence to unique maximal-nationalism steady-state* $\mu = \bar{\mu}$ *for all* μ_0. *A nationalist group forms along equilibrium path.*
3. *If* $\Delta\left(\Theta\left(\bar{\mu}\right), z\right) > 0 > \Delta(\theta, z))$, *there is a critical value* $\hat{\mu} \in [\underline{\mu}, \bar{\mu}]$. *The polity converges to* $\bar{\mu}$, *iff* $\mu_0 \geq \hat{\mu}$ – *and a nationalist group forms along equilibrium path. If* $\mu_0 < \hat{\mu}$, *it approaches* $\underline{\mu}$ *without any group forming.*

Interpretation

Consequences of endogenous groups

- multiple steady-states and hysteresis in case 3
- few initial nationalists, $\mu < \hat{\mu}$ – no group forms and nationalism declines to minimal value
- many initial nationalists, $\mu \geq \hat{\mu}$ – group forms and nationalism grows to maximal value

Heterogenous effects of shocks

- shifts of θ and z can have different effects depending on μ
- can create "locally stable" nationalism"

Example of hysteresis

Simple two-state case $\left(\theta', z'\right) >> (\theta, z)$

$$\Delta\left(\theta(1+\xi\mu_0), z\right) < 0 < \Delta\left(\theta'(1+\xi\mu_0), z'\right)$$

and initial condition μ_0 with

$$[\frac{m}{\theta' z'} - 1]\frac{1}{\xi} < \mu_0 < [\frac{m}{\theta z} - 1]\frac{1}{\xi}$$

- switch to $\left(\theta', z'\right)$ at $0 \Rightarrow$ group forms and μ starts growing, but these can reverse if switch back to (θ, z) at s
- but if μ_s fulfills

$$\Delta\left(\theta(1+\xi\mu_s), z\right) > 0 \quad \text{and} \quad [\frac{m}{\theta z} - 1]\frac{1}{\xi} < \mu_s$$

group maintained and nationalism continues to grow towards $\overline{\mu}$ after switch-back to (θ, z)

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Analysis of party entry

Party entry has macro consequences similar to group formation

- but effects on policy work directly via political representation, rather than indirectly via sharper incentives for existing parties
- thus have to model legislative bargaining and electoral rule
- contrast plurality rule with proportional representation

Basics

Cost of entry for nationalist party

- let B/μ be per-capita cost, and focus on $B \longrightarrow 0$
- consider special case with linear losses

$$U(t - t^J) = -\left|t - t^J\right|$$

- rules out possibility that party entry is driven by a desire to change redistributive policy

Denote party entry by $e \in \{0, 1\}$

- $e = 1$ induces probabilities over offers of equilibrium policies T
- denote probabilities for $(t, x) \in T(\mu, \theta, z)$ by $p(t, x, \mu, \theta, z)$ and let

$$N(\mu) = \sum_{(t,x)} \left[\frac{U\left(t - t^1\right) + U\left(t - t^2\right)}{2} + \theta W(x)\right] p(t, x, \mu, \theta, z)$$

be expected utility from entry

Timing

1. Start out with given nationalist share μ_s, salience θ, and economic polarization z.
2. Nationalists may form a party at per-capita cost B/μ.
3. If $e = 0$, two existing parties offer policies $\{t^1, x_1\}$, $\{t^2, x_2\}$, individual and aggregate shocks ω and η are realized and an election is held where party 1 wins with probability $\hat{P}(\theta, z)$.
4. If $e = 1$, three parties offer policies, with (electoral-rule dependent) probability distribution $\{p(x, t, \mu, \theta, z)\}_{(t,x)\in\mathcal{T}(\mu,\theta,z)}$. The probabilities may reflect government formation.
5. Payoffs realized.

General conditions for entry

A nationalist party enters *iff*

$$N(\mu) - \frac{B}{\mu} > \frac{U\left(t^1 - t^2\right) + U(0)}{2} + \theta W\left(\widehat{x}(\theta, z)\right)$$

Condition 1 *Payoff after entry is (weakly) increasing in μ, with $N(\mu) = U(\tilde{t}) + \theta W(0)$ at some $\mu < \bar{\mu}$.*

- with high enough (feasible) μ, a nationalist party gets its preferred policy outcome
- will check if this holds in each case below

Lemma 2 *If Condition 1 holds as $B \to 0$, there is $\hat{\mu} \leq \bar{\mu}$ such that $e = 1$ for $\mu \geq \hat{\mu}$, when $\widehat{x}(\theta, z) > 0$.*

- entry reflects lack of policy influence in status quo

Plurality rule

Simplest possible model

- all voters cast ballot for one party in single electoral district
- election is winner-takes-all
- if entry, no probabilistic shocks to nationalists' preferences – they vote *sincerely* for nationalist party

Policy determination $\{t, x\}$ in wake of entry

- incumbent parties set $\{t^1, 1\}$ and $\{t^2, 1\}$ – useless to offer $x < 1$ as nationalist voters support nationalist party
- nationalist party sets $\{\tilde{t}, 0\}$ with $t^2 < \tilde{t} < t^1$
- conditional probabilities of $\{\tilde{t}, 0\}$ are

$$p(\tilde{t}, 0, \mu, \theta, z) = \begin{cases} 1 & \text{if } \mu > 1/3 \\ 0 & \text{if } \mu \leq 1/3 \end{cases}$$

Entry under plurality rule

A nationalist party has payoffs

$$N(\mu) = \begin{cases} U(\tilde{t}) + \theta W(0) & \text{if } \mu > 1/3 \\ \frac{U\left(t^2 - t^1\right) + U(0)}{2} + \theta W(1) & \text{if } \mu \leq 1/3 \end{cases}$$

Proposition 5 *Under plurality rule and* $B \longrightarrow 0$, *a nationalist party enters iff* $\mu > 1/3$ *and* $\widehat{x}(\theta, z) > 0$

- entry only if nationalists in plurality, with additional condition that entry improves policy outcome for them

Proportional representation

Election still fought in single polity-wide district.

- legislative seat shares proportional to vote shares

Policy determination with entry of third party

- at least half of legislators must back equilibrium policy
- if $\mu > 1/2$, nationalist party will choose policy on its own
- if not, which "government coalition" forms? will it include the nationalist party, or the two incumbent parties?

Nationalist party included in government?

Consider nationalist party's bargaining power

- as includes rich *and* poor, can offer better redistribution than other cosmopolitan party
- best outcome for nationalists in coalition with J given by

$$\widehat{N}^J = \max_{(t,x)} \left\{ \frac{\left[U\left(t-t^1\right)+U\left(t-t^2\right)\right]}{2} + \theta W\left(x\right) \right\}$$

$$\text{subject to } \; U\left(t-t^J\right)+W\left(1-x\right) \geq U\left(\overline{t}\right)+W\left(0\right)$$

- $\overline{t} = \left(t^1+t^2\right)/2$ best compromise of cosmopolitan parties

Lemma 3 *Best policy proposal for nationalists has* $t = t^J$ *and*

$$\widehat{x}^J\left(z\right) = \begin{cases} 0 & \text{if } \frac{z}{2} \geq W\left(0\right)-W\left(1\right) \\ 1-W^{-1}\left(W\left(0\right)-\frac{z}{2}\right) & \text{otherwise} \end{cases}$$

- by distance preferences, J always offers t^J but concedes on x – best deal for nationalists when z high

Policy outcomes

$\widehat{N}^J$ is upper bound on nationalists' coalition payoff

- if entry not optimal with outcome $(t^J, \widehat{x}^J(z))$, it is never optimal
- to show that entry is possible, consider this outcome
- equilibrium policy probabilities are

$$p(\tilde{t}, 0, \mu, \theta, z) = \begin{cases} 1 & \text{if } \mu > 1/2 \\ 0 & \text{if } \mu \leq 1/2 \end{cases}$$

$$p(t^J, \widehat{x}^J(z), \mu, \theta, z) = \begin{cases} 0 & \text{if } \mu > 1/2 \\ 1/2 & \text{if } \mu \leq 1/2 \end{cases} \qquad J = 1, 2$$

Entry with proportional representation

Our main entry result is

Proposition 6 *Under proportional representation and* $B \to 0$, *a nationalist party enters*

1. *for all* $\mu > 1/2$, *unless* $\hat{x}(\theta, z) = 0$.
2. *for all* $\mu \in [\underline{\mu}, 1/2]$ *provided that* $\hat{x}(\theta, z) > \widehat{x}^{J}(z)$

- entry now possible even when $\mu < 1/3$, in contrast to plurality rule – i.e., entry can occur with smaller share of nationalists
- but comparing plurality-rule and proportional-representation outcomes, in terms of primitives, is quite complex

Relative fitness of nationalism

We now have

$$\Delta(\mu, \theta, z) = \begin{cases} \sum_{(x,t)} [\theta W(x) - W(1-x)] \, p(t, x, \mu.\theta, z) & \text{if } \mu \geq \hat{\mu} \\ \theta W(\hat{x}(\theta, z)) - W(1 - \hat{x}(\theta, z)) & \text{otherwise} \end{cases}$$

- a piece-wise linear function with positive jump at $\hat{\mu}$ – i.e., at point of nationalist party entry
- under both electoral systems, entry triggers tougher immigration policy (lower x)

Coevolution of parties and nationalism

Proposition 7 *Model has three cases*

1. *If* $\Delta(\hat{\mu}, \theta, z) < 0$, *unique steady-state* $\mu = \underline{\mu}$ *for all* μ_0 *and no nationalist party forms.*
2. *If* $\Delta(\underline{\mu}, \theta, z) > 0$, *unique steady-state* $\mu = \bar{\mu}$ *for all* μ_0 *and nationalist party forms along equilibrium path (at* $\mu = \hat{\mu}$*) .*
3. *If* $\Delta(\hat{\mu}, \theta, z) > 0 > \Delta(\underline{\mu}, \theta, z)$, *polity converges to* $\bar{\mu}$ *with nationalist party if* $\mu_0 \geq \hat{\mu}$ *and to* $\underline{\mu}$ *without nationalist party if* $\mu_0 < \hat{\mu}$.

- like for group formation, hysteresis is possible (in case 3)
- as before, shocks to θ and z interact with μ and can create "locally stable" nationalism

Roadmap

1. Nationalist identities and policy
2. Endogenous nationalism
3. Nationalist groups
4. Nationalist parties
5. **Final remarks**

Paper proposes very simple model

Main ideas

- choosing nationalist identity means adopting new policy preferences
- these policy preferences taken into account by political parties that vie for political power
- expected policies feed back to identity formation
- nationalist identities feed back to political organization: new social groups or new political parties
- new organizations most likely when incumbent parties do not accommodate preferences of nationalists

Possible extensions

Relax economic and political symmetry

- model still has manageable comparative statics (by supermodularity) and dynamics
- raises new issues – which incumbent party most likely caters to nationalists, and richer comparisons between electoral rules

Citizen candidates

- relax commitment in immigration policy, such that incumbent parties can make credible promises of tougher policy only by running nationalist candidates
- would add hysteresis to baseline model via takeover of existing parties (cf. Trump and Tories)

Other applications

Our building blocks useful for wider set of issues

- dynamically changing salience θ and z may predict policy responses – e.g., to mobilizing social movements
- nationalist identities and related policies topical now, but similar social inequalities and identities in ethnicity or gender – if keep separability, can study which among multiple dimensions become salient in identity politics
- same is true for evolving long-term issues such as crime or climate change
- rich prospective agenda for further work on dynamic political economics of identity politics

The Dynamics of Evironmental Politics and Values

Tim Besley and Torsten Persson

forthcoming in *Journal of European Economic Association*

Points of departure

Political economics

- positive analysis of policymaking under political constraints
- most analyses static – any dynamics through changing wealth rather than changing values
- restrictive for some issues, including environmental policy

Normative approaches to pollution (climate change)

- economists: influence incentives to change behavior (e.g., Pigouvian taxes)
- activists: influence values to change behavior directly, or indirectly (via political process and policy)

This paper

Develop a basic, dynamic framework

- study coevolution of values, politics, and environmental policy
- model two kinds of citizens: materialists and environmentalists
- policy set in electoral competition between two parties

Study welfare economics with changing values

- political failures: suboptimal long-run outcomes possible, even when political equilibria set policies to maximize current welfare
- reflect inability to commit to future policies

Roadmap

1. **Related literature**
2. Environmentalist values
3. Static economics and politics
4. Dynamics of environmentalism
5. Welfare implications
6. Extensions and final remarks

Policy responsiveness in static models

How do politics shape policy – e.g., on pollution?

- Downsian models: policy chosen to the preferred position of median voter, if such position exists
- probabilistic voting: winning policies vary smoothly with policy positions
- citizen candidates: policies chosen by representatives of certain groups

Standard economics approach to environmentalism

- underlying values and policy preferences fixed
- to move policy in preferred direction interest groups lobby policymakers (review by Oates and Portney 2003)

Dynamic political-economics models

Early models of strategic debt

- incumbents want to influence policies of future policymakers with different preferences (Persson and Svensson 1989, Tabellini and Alesina 1990)
- incumbents want to influence future vote shares (Aghion and Bolton Svensson 1990, Milesi-Feretti and Spolaore 1994)

Sources of inefficient policy

- inability of policymakers to commit (Acemoglu 2003, Besley and Coate 1998)
- may motivate strategic delegation to alternative institutions (Rogoff 1995, Acemoglu and Robinson 2000)

Values, preferences, and identities

Environmentalism as pro-social preferences

- private intrinsic preferences to do good can motivate e.g., charitable giving (Andreoni 2006)
- model environmentalism as not consuming polluting goods – can't affect equilibrium emissions, but feel contribute to right cause
- cf. mission-driven preferences (Besley and Ghatak 2005) or adoption of social identity (Akerlof and Kranton 2000, 2010)

Specific microfoundation for environmentalism

- "virtue signalling" to earn social respect, as in Benabou and Tirole (2006)
- but imperfectly observed consumption makes social value of signal depend on share of environmentalists

Part of (much) wider agenda

Preferences partly socially determined

- standard and classical idea in sociology
- more recent among economists (Bowles 1998, Bisin and Verdier 2001)
- draws on cultural evolution in anthropology (Boyd and Richerson 1985, Cavalli-Sforza and Feldman 1981)

Institution design and dynamics of values

- related to approach in Lecture 5, but strategic design by competing political parties, rather than by single principal

Roadmap

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Some facts about environmentalism

Are key model aspects founded in data?

- people have heterogenous values regarding the environment, which relate to their preferences
- these values will differ systematically across generations and societies

World Value Survey (WVS)

- values: question posed in four waves, "would you prioritize environment over economic growth?
- answered by 250,000 people, 54 percent say yes – code as environmentalists
- policy preferences: posed in four waves, "increase in taxes if used to prevent environmental pollution"?
- answered by 190,000, 44 percent "strongly agree" or "agree" – code as favorable preferences

Study individual and cross-country variation

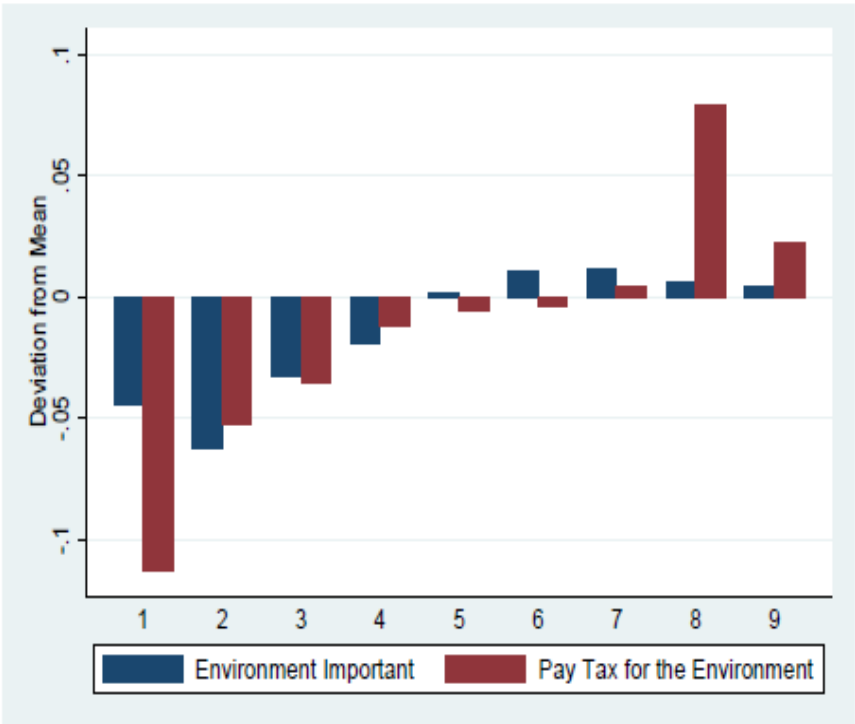
Clear patterns in the data

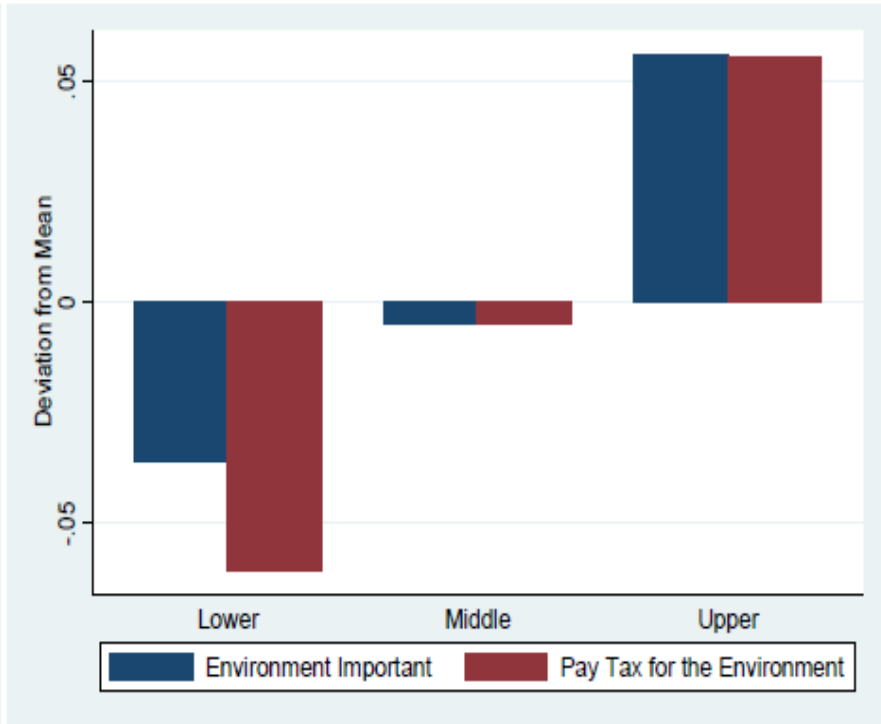
- Figure 1: environmental values and preferences stronger among later cohorts and more educated
- Figure 2: values and preferences both show stark variation across countries
- Figure 3: values and preferences clearly positively correlated

Variation has micro and macro components

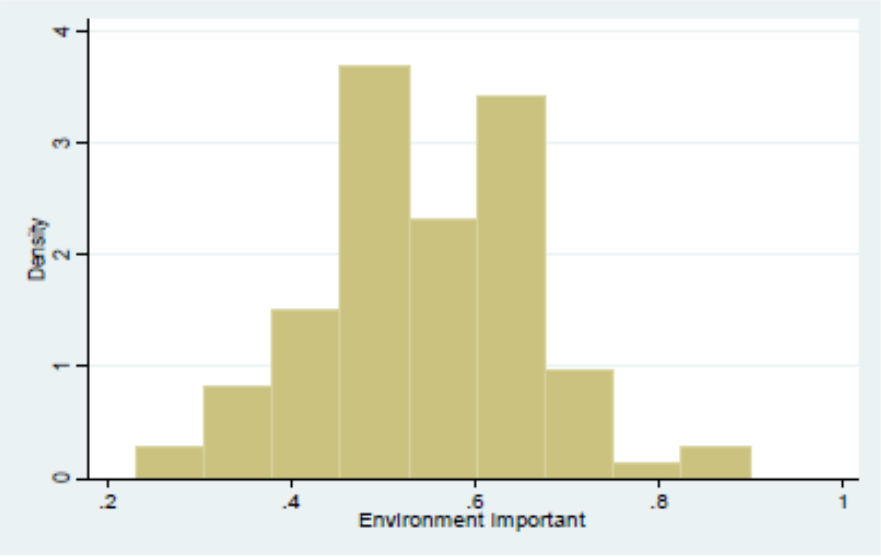
- differences across generations and countries underpin assumptions and implications of model to come

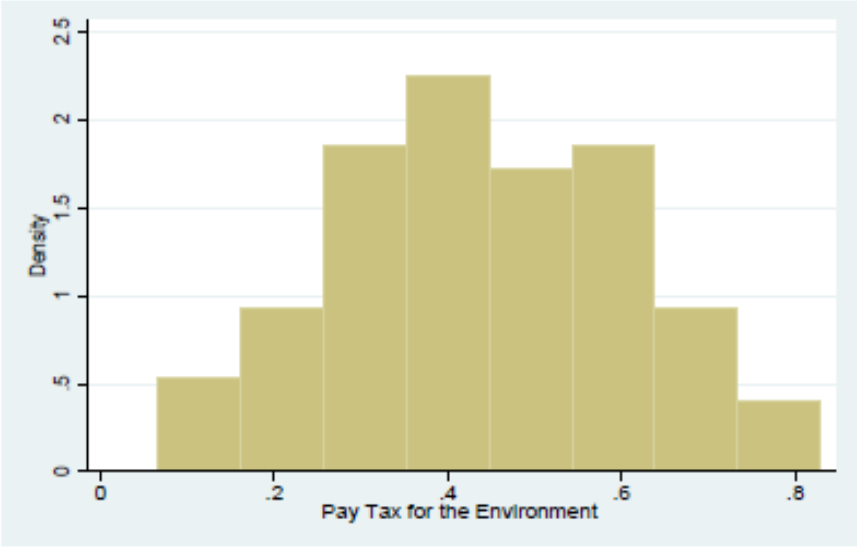
Values by birth decade and education

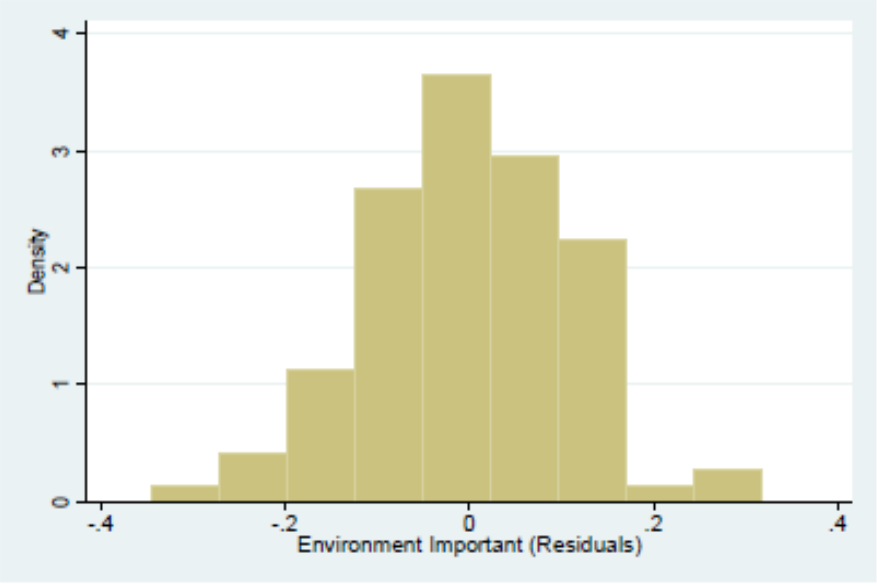




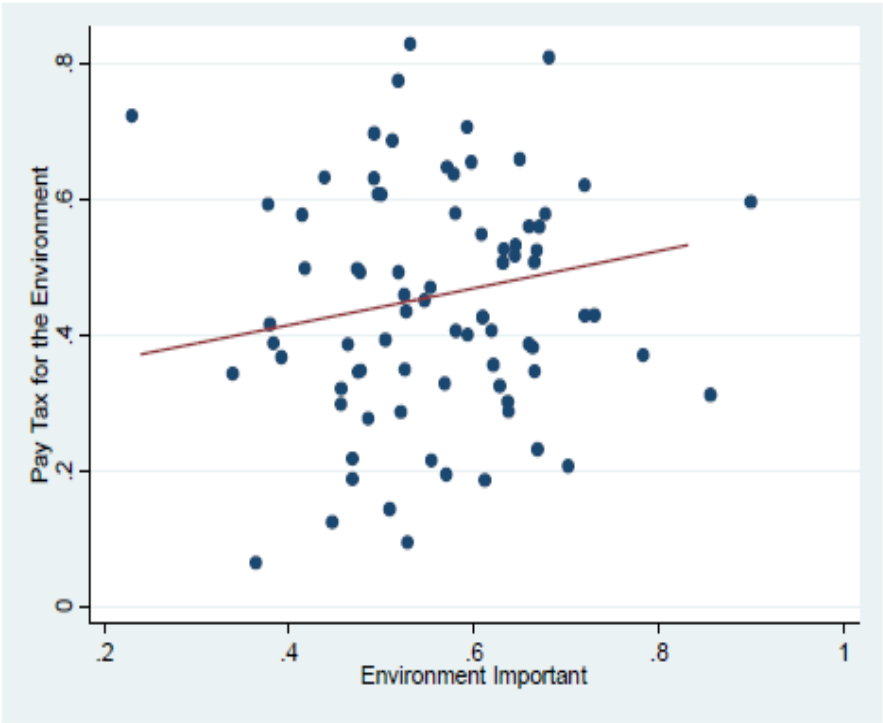
Cross-country variation

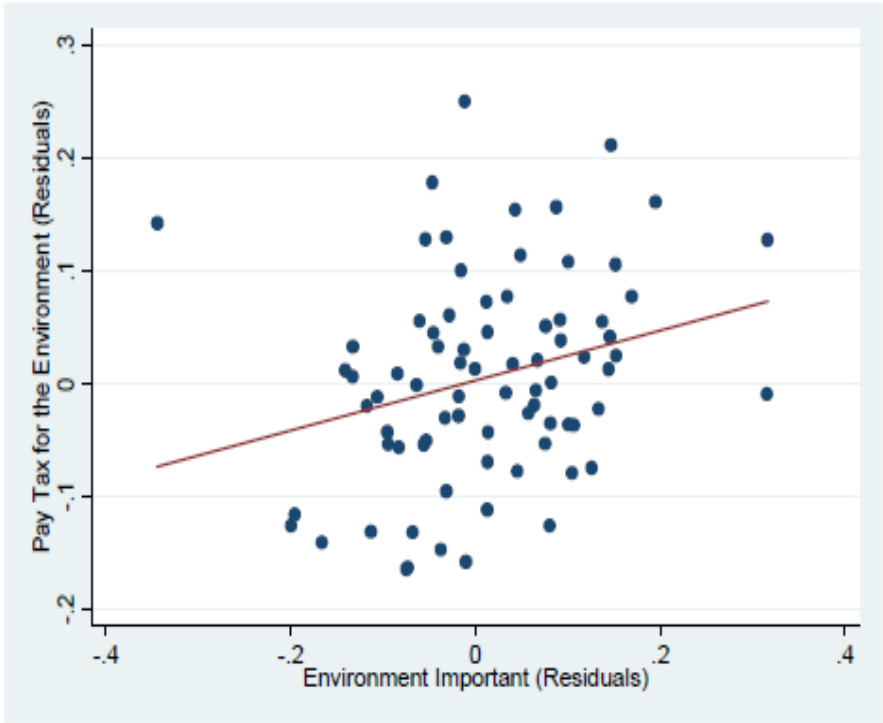






Correlation: values and policy preferences





Roadmap

1. Related literature
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Basic economics

Consider a given period s

- two types (social identities) $\tau \in \{m, e\}$, materialists and environmentalists, given shares $1 - \mu_s$ and μ_s – these only indirectly observed
- everybody has same income y
- c is polluting good (think carbon emissions), taxed at t
- n non-polluting, given relative price $p \geq 1$
- budget constraint for both groups

$$y + r = c(1 + t) + pn$$

where r is government transfer

Materialists

Preferences

$$u^m = \log(Ac) + n - \lambda C$$

- C aggregate consumption (taken as given), λ pollution externality
- given budget constraint, optimal consumption is

$$\widehat{c}(t,p) = \arg\max_c \left\{ \alpha + \log(c) + \frac{y+r}{p} - \frac{(1+t)c}{p} \right\} = \frac{p}{(1+t)}$$

where $\alpha = \log(A)$

Indirect utility *from good* c

$$v(t,p) = \alpha - 1 + \log\left(\frac{p}{(1+t)}\right)$$

Environmentalists

Preferences

$$u^e = n - \lambda C + V(\mu)$$

- no utility from c, so set $c = 0$
- $V(\mu)$ "virtue utility" (Benabou and Tirole 2006) from perceptions of environmentalism
- $c = 0$ observed, $c > 0$ observed only with prob ρ
- if observe $c = 0$, think person is environmentalist with prob $\varphi(\mu)$
- by Bayes Rule

$$\varphi(\mu) = \frac{\mu}{(1-\mu)\rho + \mu}.$$

  $\varphi(\mu)$ increasing, with $\varphi(1) = 1$ and $\varphi(0) = 0$
- assume $V(\mu) = \chi\varphi(\mu)$ – gives positive link from share of environmentalists to virtue utility

Policy preferences

Close the model

- suppose tax revenue rebated to consumers $r = Ct$
- use equilibrium condition $C = (1-\mu)\widehat{c}(t,p)$
- normalize $p = 1$

Type-dependent policy preferences

$$u^{\tau}(t,\mu) = \begin{cases} \chi\varphi(\mu) - (\lambda - t)(1-\mu)\widehat{c}(t) + y & \tau = e \\ v(t) - (\lambda - t)(1-\mu)\widehat{c}(t) + y & \tau = m. \end{cases}$$

- as $v(t)$ decreasing, environmentalists prefer higher t than materialists

Basic politics

Two Downsian parties

- A, B, propose platforms t^A, t^B before election each s, to maximize chance to win

Variant of probabilistic voting model

- loyal and swing voters in same shares among two types – swing voter of type τ votes for A if

$$u^\tau(t^A, \mu) + \varepsilon + \chi \geq u^\tau(t^B, \mu)$$

- ε idiosyncratic shock, χ aggregate shock
- uniformly distributed: ε on $[-1/E, 1/E]$, χ on $[-1/X, 1/X]$
- this simple model – with specific assumptions on utility – has closed-form solution for policy

Probabilities of winning

Standard steps in probabilistic voting

- party A wins election with probability

$$q^A = \frac{1}{2} + X\Omega\left(t^A, t^B, \mu\right)$$

where

$$\Omega\left(t^A, t^B, \mu\right) = \begin{array}{c} \mu\left[u^e(t^A, \mu) - u^e(t^B, \mu)\right] \\ + (1-\mu)\left[u^m(t^A, \mu) - u^m(t^B, \mu)\right]. \end{array}$$

- party B wins with probability $q^B = 1 - q^A$
- note A and B effectively set policy to maximize same Utilitarian social welfare function

Political equilibrium

Proposition 1 *Both parties pick the same tax rate*:

$$t^A = t^B = \widehat{t}(\mu) = \frac{\mu + \lambda}{1 - \mu}$$

Observations

- lowest tax rate is $\widehat{t}(0) = \lambda$ – conventional Pigouvian tax; for positive μ, tax is higher
- as $\mu \to 1$, $\widehat{t}(\mu) \to \infty$ – remaining materialists effectively banned from polluting consumption
- define equilibrium utility for type τ at share μ

$$u^\tau(\mu) = u^\tau(\widehat{t}(\mu), \mu),$$

$u^e(\mu)$ rises in μ, but $u^m(\mu)$ falls in μ – politicians put more weight on environmentalist preferences

Roadmap

1. Related literature
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5. Welfare implications
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Timing in period s

Now allow μ to be endogenous

1. Society enters s with share μ_s of environmentalists in current generation
2. Parties offer policy platforms $\{t^A, t^B\}$
3. Individual and aggregate shocks ω and η realized
4. Election held where party A wins with probability q^A
5. Policy implemented, economic choices made, and payoffs realized
6. Next generation of citizens decide to identify as environmentalists or materialists. This determines μ_{s+1}

Values evolve over time

Dynamics of social identification follow "revision protocol"

$$\mu_{s+1} - \mu_s = (1 - \mu_s)\,\varsigma^{m,e} - \mu_s \varsigma^{e,m}$$

$$\varsigma^{m,e} > 0 \Longleftrightarrow \Delta > 0 \quad \text{and} \quad \varsigma^{e,m} > 0 \Longleftrightarrow \Delta < 0$$

- where $\Delta(\mu_{s+1}) = u^e(\mu_{s+1}) - u^m(\mu_{s+1})$ is (expected relative) fitness of environmentalism
- can derive from similar microfoundations as in Lecture 5
- given economic (social) choices, can write

$$\Delta(\mu_{s+1}) = \chi\varphi\left(\mu_{s+1}\right) - v\left(\widehat{t}\left(\mu_{s+1}\right)\right)$$

Dynamic complementarity

- straightforward compute

$$\Delta_\mu(\mu) = \chi\varphi_\mu(\mu) - v_t\left(\widehat{t}(\mu)\right)\widehat{t}_\mu > 0$$

- social signal more effective, and pollution taxes higher (v lower), as environmentalism more common

Dynamics and steady states

Three observations and their consequences

- (i) as $\mu \to 0$, $\varphi(\mu) \to 0$ and $\Delta(0) < 0$, (ii) as $\mu \to 1$, $v\left(\widehat{t}(1)\right) \to 0$ and $\Delta(1) > 0$,(iii) because $\Delta(\mu)$ continuously increasing, must exist $\hat{\mu}$ defined by $\Delta(\mu) = 0$, where $\chi\varphi(\hat{\mu}) = v\left(\widehat{t}(\hat{\mu})\right)$
- steady states at $\mu = 0$ and $\mu = 1$ are stable, but one at $\mu = \hat{\mu}$ unstable

Proposition 2 *If $\mu_0 > \hat{\mu}$, society monotonically approaches steady state $\mu = 1$. Otherwise, it monotonically approaches steady state $\mu = 0$*

- dynamics hinge on sign of $\Delta(\mu)$ – positive (negative) if $\mu > \hat{\mu}$ $(\mu < \hat{\mu})$
- complementarity drives environmentalist share μ to 1 (to 0)

Implied dynamics of policy and politics

Changing environmentalist sentiment in politics

- if $\mu > 0$, pollution tax higher than Pigouvian level $t = \lambda$
- tax gap responds to evolution of types, via electoral process, and feeds back this evolution, via (expected) fitness of environmentalism
- two-way link between values and policy relates share of environmentalists to strictness of environmental policy

Possible amplifying forces – as earlier today

- endogenous social movements – think Gilets Jaunes, Extinction Rebellion, or Greta Thunberg strikes – may reinforce such dynamics
- so can endogenous green-party formation

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Welfarist approach

Welfare analysis with endogenous preferences

- challenging, but interesting – can we say that society with more of one type is better off in well-defined sense?

Social welfare function

$$W\left(u^{e}, u^{m}, \mu\right) = \mu\omega(u^{e}(\mu)) + (1-\mu)\,\omega\left(u^{m}(\mu)\right)$$

- $\omega\left(\cdot\right)$ increasing concave function – if linear, Utilitarian
- working with W assumes payoffs can be compared, but Darwinian approach already assumes citizens do via $\Delta\left(\mu\right)$

Standard approach fails

- would say Pigouvian tax $t = \lambda$ maximizes feasible welfare
- but no longer correct when fractions of types endogenous
- have to ask if society of environmentalists happier if pollution externality fully eliminated, not just mitigated

Compare possible steady states

Alternative long-run welfare levels

$$W\left(u^e, u^m, 1\right) = \omega\left(\chi + y\right) \quad \text{and} \quad W\left(u^e, u^m, 0\right) = \omega(v(\hat{t}\left(0\right)) + y)$$

Proposition 3 *Welfare in two steady states depend on parameter values*:

1. *If* $\alpha < 1 + \chi$, *welfare is always higher with* $\mu = 1$
2. *If* $\alpha \geq 1 + \chi$, *there is a threshold value* λ *such that welfare highest with* $\mu = 1$ *– i.e.,* $\chi > v\left(\hat{t}\left(0\right)\right)$ *above this threshold*

- case 1: warm-glow of environmentalism strong enough that welfare higher in population of environmentalists
- case 2: if $\lambda = 0$, materialism better (no corrective tax needed), but as λ rises high tax needed in materialist population – whose welfare higher, not consuming c in all-environmentalist population

Failure of democratic politics?

Suboptimal steady states

- this follows from Propositions 2 and 3
- e.g., if $\alpha < 1 + \chi$ and $\mu_0 < \hat{\mu}$ society converges to suboptimal $\mu = 0$; same is true if $\alpha > 1 + \chi$, and λ high enough

Mechanical driver

- welfare comparisons involve long-run welfare levels, while value dynamics reflect short-run welfare differences
- if start "in the wrong place" may end up in the wrong place

Real culprit

Source of long-run suboptimality is inability to commit

- incumbent policymaker, and private actors, at s must take $\widehat{t}\left(\mu_{s+1}\right)$,which governs value formation, as given
- consider tax $\widehat{t}\left(1\right)$: absent commitment, would face political resistance if $\mu_s < 1$ and be politically inoptimal
- but credible $s+1$ commitment to $\widehat{t}\left(1\right)$ would change value dynamics

$$\Delta\left(\mu_{s+1}\right) = \chi\varphi\left(\mu_{s+1}\right) - v\left(\widehat{t}\left(1\right)\right) = \chi\varphi\left(\mu_{s+1}\right) + \alpha - 1 > 0$$

Proposition 4 *If it is possible to commit to* $\widehat{t}\left(1\right)$ *,society will converge to* $\mu = 1$

Implications for institution design?

- society that believes long-run welfare is higher with environmentalism, may want to institutionally delegate climate policy
- but delegation itself must be credible – cf. central bank independence a la Rogoff (1985)

Roadmap

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Possible extensions

Social and political amplification

- introduce endogenous organizations: social movements and/or political parties, which would interact with evolving values and policies

Endogenous public socialization

- we have seen that environmentalism and policy preferences vary systematically with education
- can be exploited in publicly-funded education systems – or in publicly-regulated media – in both directions (raising or lowering μ)

Dynamic models of economy and society

- dynamics of climate change or climate technologies would allow current policymakers to strategically affect future political equilibria via future state variables

Specific points of this paper

Environmental policies in democratic society

- are ultimately constrained by what current voters want – this way politics create a kind of momentum
- may interact with the formation of environmental values in an interesting way

New perspective on Pigouvian policies

- may or may not go far enough
- when values are endogenous, society may well end up in a suboptimal long-run equilibrium

More general messages?

Policymaking can interact with evolution of values

- other possible applications than environmental policies and values

Welfare analysis with endogenous values

- changing values introduce tricky but interesting questions

Cultural evolution of values

- may not converge to long-run optimum
- this raises familiar issues of alternative institution design

Economists slow to embrace endogenous values

- such reluctance may neglect an important aspect of policymaking