A Model of Social Identity with an Application to Political Economy: Nation, Class and Redistribution (APSR 2009)

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What Has Patriotism Got To Do With Redistribution?

“America seems… like a panorama of madness and delusion worthy of Hieronymus Bosch: of sturdy blue-collar patriots reciting the Pledge while they strangle their own life chances; of small farmers proudly voting themselves off the land… of working-class guys in Midwestern cities cheering as they deliver up a landslide for a candidate whose policies will transform their region into a ‘rust belt’”

Thomas Frank (2004), What's the Matter with Kansas?
Overview

1. A general framework for modeling social identity
   - Review:
     - Define SI in terms of preferences
     - Factors influencing identification choices
   - Equilibrium concept

2. Application to political economy of redistribution
   - National vs. class identification

3. Evidence: national identification and redistribution
Results: Theory

1. Poorer individuals are more likely to be nationalists [Proposition 3].

2. Nationalism reduces support for income redistribution [Proposition 1].

3. Increased income inequality can lead to a rise in nationalism, which in turn reduces demand for redistribution [Proposition 2].

4. Immigration of low-skilled workers increases nationalism among the working class [Proposition 4].
   - Effect not due to (real or perceived) economic effects of migration, but due to changing identification patterns.
   - The effect can be driven by both actual immigration as well as its salience (which might be manipulated by politicians).

5. A shift towards nationalism is more likely in countries with higher status and prestige [Proposition 2].

6. Perceived national threats tend to increase nationalism and again, dampen the demand for redistribution [Proposition 2].
Results: Empirics

1. In almost all democracies, poor are more likely to be nationalists.

2. And nationalists are less likely to support redistribution.

3. Across democracies, the more nationalist countries have less redistribution and vice versa.
A General Framework

• Start with a standard setting
  – A set of agents $\mathcal{N}$
  – A set $A_i$ of available actions for each agent $i$
  – A set of social outcomes (consequences) $T$
    and a function $f: A \rightarrow T$
    • e.g. a political process
  – A material payoff function

$$\pi_i : T \rightarrow \mathbb{R}$$
Modeling SI

• Let $G$ be a set of social groups (subsets of $\mathbb{N}$).
  – $G$ is given. Focus on process of identification with available categories.
  – Denote: $G_i = \{ J : J \in G \text{ and } i \in J \}$

• Identification involves a cognitive factor (self categorization) and an affective factor.
Perceived distance

• “Distance in conceptual space”

• Each individual characterized by a vector of attributes
  \[ q_i = (q_i^1, q_i^2, \ldots, q_i^H) \]

• Social group characterized by the “typical” attributes of its members
  \[ q_J = \frac{1}{|J|} \sum_{i \in J} q_i \]

  – \( q_J \) is the “prototype” of group \( J \)

• If \( H > 1 \), need some assumption on how attention is divided between the different dimensions.
  ➢ Selective attention modeled by differential weighing of the dimensions in the conceptual space (Nosofsky 1986).
Perceived distance

• The perceived distance between individual $i$ and group $J$:

$$d_{iJ} = \left( \sum_{h=1}^{H} w_h (q_i^h - q_J^h)^2 \right)^{1/2}$$

0 \leq w_h \leq 1 \text{ and } \sum w_h = 1 \text{ (attention weights)}$

• Allows the social environment to affect perceived distances in two ways

  - through changes in the attributes ($q_i$ and $q_J$)
  - through changes in the salience of the various dimensions ($w$’s)
Group Status

- Social psychology: evaluation of groups relies on social comparisons to other groups, along valued dimensions of comparisons (Tajfel and Turner 1986).

- One such dimension is material payoff:
  \[ \tilde{\pi}_J(t) \] - some measure of group \( J \)'s material payoff.
  \( r(J) \) - the reference-group of group \( J \).

- The status of a group \( J \) is:
  \[
  S_J(t) = \sigma_0^J + \sigma_1^J \left( \tilde{\pi}_J(t) - \tilde{\pi}_{r(J)}(t) \right)
  \]
Summing up

• A set of agents $N$,
• A set $G$ of social groups (subsets of $N$)
• A set $A_i$ of available actions for each agent $i \in N$
• A process that aggregates individual actions to a social outcome $t$

• The material payoff of each agent, $\pi_i$
• The cognitive distance between every agent and group, $d_{ij}$
• The status of each group, $S_J$

Functions of the social outcome
Definition 1. An agent is said to identify with social group J if she:

- prefers social outcomes where group J’s status is high to ones where it is low;
- prefers social outcomes where her perceived distance from group J is low to ones where it is high.

- Captures behavior in
  - Judicial decisions
  - Minimal Group Paradigm
  - Experimental economics
  - Public goods experiments
  - Studies of conformity

- Can infer identity using revealed preference.
Definition 1. An agent is said to **identify** with social group J if she:

- prefers social outcomes where group J’s status is high to ones where it is low;
- prefers social outcomes where her perceived distance from group J is low to ones where it is high.

• Assume additive utility

\[ U_i(t; J) = \pi_i(t) - \beta d_{iJ}^2(t) + \gamma S_{iJ}(t) \]

where \( \beta, \gamma > 0 \)
Observation: group status and perceived distance are also the major forces determining which groups people identify with.
Definition 2 [the basic idea]: A **Social Identity Equilibrium (SIE)** is a profile of actions (an action for each agent) and a profile of social identities (an identity for each agent) such that for all agents:

(i) Actions optimal given identities

(ii) Identities “optimal” given social environment:

    = identify with the group that is most similar to self and has highest status

(iii) Social environment determined by profile of actions via the aggregation process
Definition 2. A Social Identity Equilibrium \((SIE)\) is a profile of actions \(a = (a_i)_{i \in N}\) and a profile of social identities \(g = (g_i)_{i \in N}\) such that for all \(i \in N\) we have \(a_i \in A_i, g_i \in G_i\) and

\[
U_i (f(a_i, a_{-i}); g_i) \geq U_i (f(a'_i, a_{-i}); g'_i)
\]

for all \(a'_i \in A_i\) and all \(g'_i \in G_i\).
Remarks

• Identification profile not given (endogenously determined)
• If actions do not affect status nor distances ➔ behave like material payoff maximizer.
• If actions affect distances ➔ attempt to resemble group (conformity, peer effects); resent non-prototypical behavior by other group members
  – Inequality aversion within group
• If actions affect ingroup members ➔ altruistic behavior.
  – But altruism is “particular”: directed only at ingroup members.
  – May even incur a cost to reduce welfare of outgroup members if this sufficiently enhances ingroup status.
Application to Political Economy Of Redistribution

- Pre-tax income:
  \[ y_r > y_p, \quad \lambda > 0.5 \text{ is proportion of “poor”} \]
- Material payoff:
  \[ \pi_i(t) = (1 - t)y_i + k \]
- Govt budget constraint (Bolton and Roland 1997):
  \[ k = (t - t^2/2)y \]
- Political process:
  \[ a_i \in A_i = [0, 1] \]
  \[ t^* = f(a) = \text{median}\{a_i\}_{i \in N}. \]
- Absent social identity considerations the chosen tax rate is:
  \[ \hat{t} = \frac{y - y_p}{y} \]
• Social groups:

\[ G = \{P, R, N\} \]

\[ P = \{i \in N : y_i = y_p\} \]

\[ R = \{i \in N : y_i = y_r\}. \]

• Perceived distances
  – Taken as exogenous (i.e. mainly related to pre-tax income (occupation…) and inherited qualities (accent…))
    • Don’t directly model policies that affect attributes or salience.
  – Assume (for now) no within-class heterogeneity:

\[ d_{iJ}^2 = w_y(y_i - y_J)^2 + w_N(q_i^N - q_J^N)^2 + w_C(q_i^C - q_J^C)^2 \]

Income

Nation-specific attributes

Class-specific attributes
• Status

\[ S_J(t) = \sigma_0^J + \sigma_1^J \left( \widetilde{\pi}_J(t) - \widetilde{\pi}_{r(J)}(t) \right) \]

– Classes:

\[ \widetilde{\pi}_R = \pi_r ; \widetilde{\pi}_P = \pi_p \]

– Nation:

\[ \widetilde{\pi}_N = \alpha \pi_p + (1 - \alpha) \pi_r , \quad \alpha \in [0, 1] \]

• \( \alpha=\lambda \): income per capita
• \( \alpha=1 \): Rawlsian
• \( \alpha=0 \): Bezosian

– Each class forms the reference group of the other class.
– The nation's reference group is some other nation (or nations).
Ideal tax rates

• Group status affected by group members’ after-tax income
  ➢ Status of Poor class increases with redistribution
  ➢ Status of nation may increase or decrease (or unrelated to redistributive policies)

➢ Proposition 1. The tax rate preferred by a poor agent is lower if she identifies with the nation than if she identifies with her class.
Figure 1: The Voter's Choice

a. Class Identification

b. National Identification

$t = 0$

$t = \hat{t}$

$t_p^*(y_p)$

$t_N^*(y_p)$
Social Identity Equilibria

- The poor are the majority: elected tax rate depends on whether they identify with class or nation.
- This depends on status and perceived similarities:

\[ S_N - S_P \]

\[ \frac{\beta}{\gamma} \left( d_{PN}^2 - d_{PP}^2 \right) \]
Social Identity Equilibria

- The poor are the majority: elected tax rate depends on whether they identify with class or nation.
- This depends on status and perceived similarities

- Note:
  - Status of rich class likely to be higher than that of poor class
  - Similarity to nation likely to be higher among poor [in modern advanced economies!]
  ➢ Poor more likely to hold national identity than are rich

**Proposition 3.** Unless the status of the poor-class is sufficiently higher than that of the rich class, then in any SIE in which the rich identify with the nation, so do the poor. However, there exist SIE where the poor identify with the nation but the rich do not.
Social Identity Equilibria

- Status of the poor class increases with redistributive taxation (more than national status)

\[
S_N - S_P = \frac{\beta (d_{pN}^2 - d_{pp}^2)}{\gamma}
\]

Two types of equilibria

\( t_N \quad \text{and} \quad t_P \)
Perceived Difference from Poor class

Comparative statics

- heterogeneity
- ethnic diversity that is concentrated at the poorer segments of society [Proposition 4]
- shift of working class in western Europe from socialist to nationalist parties?

"Certainly the most common explanatory factor put forward for the electoral breakthrough of the radical right are immigration and the presence of immigrants" (Schain et al. 2002).
Comparative statics

Perceived similarity to Nation

\[ S_N - S_P \]

\[ \frac{\beta}{\gamma} (d_{pN}^2 - d_{pP}^2) \]

- salient international competition/conflict
- a common threat

“As Americans we are absolutely united, all of us. There are no Democrats, there are no Republicans. As Americans we are united in our determination to destroy, capture, kill Osama bin Laden”

(John Kerry, 10/2004)
Comparative statics

Perceived similarity to Class

- salient class divisions

“I'm not worried about CEOs… the oil companies… the drug companies… I'm worried about the family that's trying to figure out how they can save for their child's college education. I'm worried about the single mom that doesn't have health insurance. I'm worried about the guy who's worked in a plant for 20 years and suddenly sees his job shipped overseas. That's who I'm worried about. That's who I'm going to be fighting for.”

(Barack Obama, 10/2008)
“when I took office, I felt very strongly that our government had grown too officious and imposing too much on the private sector in our society… I wanted to see if the American people couldn't get back that pride, and that patriotism, that confidence, that they had in our system. And I think they have.”

(Ronald Reagan)
Effect of pre-tax inequality

Ambiguous:
- As inequality rises, poor want more redistribution under any given identity
- They are also less similar to their fellow nationals
- But relative status of poor diminished: could shift away from class identification and towards national identification.
History matters…

- Countries with similar institutional and economic characteristics can nonetheless have very different redistributive regimes.

\[
\frac{\beta}{\gamma} \left( d^2_{pN} - d^2_{PP} \right)
\]

Low tax
⇒ low status of poor class
⇒ national identification
⇒ low tax

High tax
⇒ high status of poor
⇒ class identification
⇒ high tax
Empirical Predictions

1. Support for redistribution is decreasing with national identification.
2. Poor are more likely to identify with their nation.
3. Democracies exhibit a negative correlation between levels of national identification and levels of redistribution.
Data

1. ISSP 1995: National Identity
   - Micro data, detailed national identification questions

   - Micro data for waves 2-3 (no reliable income data for first wave)
   - Cruder measure of national identification
   - Preference for redistribution.

3. Luxemburg Income Study (Milanovic 2000)
   - Income distribution: pre-tax and post-tax.

Focus:
- Democracies
  - Polity IV combined score > 5

- National-identification rather than class-identification
  - Data availability
  - More contentious/interesting
Empirical Predictions

1. **Support for redistribution is decreasing with income and with national identification.**

2. Poor are more likely to identify with their nation.

3. Democracies exhibit a negative correlation between levels of national identification and levels of redistribution.
Definition 1: An agent is said to identify with social group J if she:

- prefers social outcomes where group J’s status is high to ones where it is low;
- prefers social outcomes where her distance from group J is low to ones where it is high.

In lab experiments, identification can be inferred from behavior (using revealed preference).
Variables
Measuring Social Identity

• Measuring identification out of the lab
  – Ellemers et al. (1999): ingroup favoritism captured by questions on commitment to the group (desire to continue acting as a group member)
    • “I would like to continue working with my group”
    • “I dislike being a member of my group”
    • “I would rather belong to the other group”
  – Klor and Shayo (2010): costly voting for one’s group captured by
    • “I am proud to be a member of my group”
    • “When someone criticizes my group it feels like a personal insult”
  – In both studies, it is not captured by mere self-categorization
    • “I am similar to other members of my group”

• WVS: “How proud are you to be [e.g. French]?”
  – very proud, quite proud, not very proud, not at all proud.
• [No such question on class identity]
Variables

Household Income

• WVS:

V227. Here is a scale of incomes. We would like to know in what group your household is, counting all wages, salaries, pensions and other incomes that come in. Just give the letter of the group your household falls into, before taxes and other deductions.

1  2  3  4  5  6  7  8  9  10
C    D    E    F    G    H    I    J    K    L
– Income categories are survey specific (*not* deciles)
– Use only surveys where income categories reported
– Regressions control for household size
Variables

Support for Redistribution

• WVS:

Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between.

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</table>

V125 Incomes should be made more equal

We need larger income differences as incentives for individual effort

– Taxation and transfers designed to make incomes more equal
– Trade-off with incentives for effort (deadweight loss of taxation)
– Country specific (can’t pool surveys!)
– Reverse order in estimation: 10=highest support for redistribution
Support for Redistribution

USA 90

Log Income

Less than “very proud”

“Very proud”
Support for Redistribution

Log Income

USA 90

Less than “very proud”

“Very proud”

$10,000 to $27,000
Support for Redistribution

Canada 90

Less than “very proud”

“Very proud”
India 90

Support for Redistribution

log Income

Less than “very proud”

“Very proud”
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<th>Survey</th>
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OLS regressions controlling for log of household size, years of schooling, sex & age.
Empirical Predictions

1. Support for redistribution is decreasing with income and with national identification: in most economically advanced democracies.

2. Poor are more likely to identify with their nation.

3. Democracies exhibit a negative correlation between levels of national identification and levels of redistribution.
Empirical Predictions

✓ Support for redistribution is decreasing with income and with national identification: in most economically advanced democracies.

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Variables

National Identity


How much do you agree or disagree with the following statements?

1. I would rather be a citizen of (R's country) than of any other country in the world.
2. There are some things about (R's country) today that make me feel ashamed of (R's country).
3. The world would be a better place if people from other countries were more like the people in (R's country).
4. Generally (R's country) is a better country than most other countries.
5. When my country does well in international sports, it makes me proud to be citizen of (R's country).
6. (R's country) should follow its own interests, even if this leads to conflicts with other nations.


Sum up to construct a national identity scale: values in \{0,1,2,\ldots,24\} with a higher score representing more nationalist answers.
Table 2: National Identification and Income

<table>
<thead>
<tr>
<th>Country</th>
<th>log Income</th>
<th>N</th>
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<td>Slovak Rep.</td>
<td>-0.733**</td>
<td>1012</td>
<td>-0.735**</td>
<td>1012</td>
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<tr>
<td>Slovenia</td>
<td>-0.826**</td>
<td>463</td>
<td>-0.780**</td>
<td>459</td>
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<td>Spain</td>
<td>-0.910**</td>
<td>714</td>
<td>-0.901**</td>
<td>700</td>
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<tr>
<td>Sweden</td>
<td>-0.999**</td>
<td>882</td>
<td>-0.689**</td>
<td>826</td>
</tr>
<tr>
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<td>-0.516**</td>
<td>1045</td>
<td>-0.355**</td>
<td>1045</td>
</tr>
<tr>
<td>W-Germany</td>
<td>-1.097**</td>
<td>900</td>
<td>-0.894**</td>
<td>875</td>
</tr>
</tbody>
</table>

OLS regressions controlling for log of household size, sex & age.
Empirical Predictions

✓ Support for redistribution is decreasing with income and with national identification: in most economically advanced democracies.

✓ Poor are more likely to identify with their nation.

3. **Democracies exhibit a negative correlation between levels of national identification and levels of redistribution**
• Need data on both pre-tax and after-tax income.
• Luxemburg Income Study (Milanovic, 2000)
  – Household surveys
  – Factor income = pre-transfer and pre-tax income, includes wages, income from self-employment, income from ownership of physical and financial capital, and gifts.
  – Disposable income = factor income + government cash transfers - direct personal taxes and mandatory employee contributions.
• Share gain of the bottom quintile = difference between the share of the bottom quintile in factor and disposable income.
• Match WVS and ISSP surveys with closest LIS survey
• Model: National identification ↔ redistribution
  ➢ Look only at correlations
ISSP 1995, Established Democracies

Share Gain of Bottom Quintile

National Identity Six-item Scale, Median
ISSP 1995, Established Democracies

Share Gain of Bottom Quintile

National Identity Six-item Scale, Median

N = 11. R - squared = 0.72
WVS, waves 1-3, Established Democracies

N = 32. R - squared = 0.6
WVS - Movements Over Time

Share Gain of Bottom Quintile

Fraction of Population Very Proud to be [Nation]
WVS – Ethnic Diversity

a. Low Share of Ethnic Minorities

b. High Share of Ethnic Minorities

N=24, R-squared=0.4.

N=8, R-squared=0.93.
Conclusions

- A general yet parsimonious characterization of social identification
  - Employ experimental data for micro-foundations
    • Captures major features of allocation decisions, cooperation, conformity
    • Apply economic notion of equilibrium.

- Can help explain political economy of redistribution, e.g.
  - Why blue collar workers may - or may not - vote for high redistribution.
  - Why rising inequality does not in general lead to more demand for redistribution, and can lead to increased national identification.
  - Why immigration of low-skilled workers can reduce support for redistribution.
  - How national threats can reduce support for redistribution.

- Empirical findings
  - In almost all democracies, poor are more likely to be nationalists
  - And nationalists are less likely to support redistribution.
  - Across democracies, the more nationalist countries have less redistribution and vice versa