Effect of intraparty negotiation on interregional redistribution

Diogo Ferrari

Department of Political Science
University of Michigan

Summary

INTRAPARTY NEGOTIATION REDUCES LEVEL OF INTERREGIONAL REDISTRIBUTION if

- Parties are national
- **Expected marginal change in the number of legislative seats of the party** due to redistribution is expected to affect legislative power

.

Introduction

Almost every democratic federation has some system of interregional redistribution. Redistribution of income between regions can occur as a side-effect of individual based programs of redistribution or it can be part of a program that targets reduction of regional inequality. There is an extensive literature in the Political Economy of interregional redistribution that emphasize the effect of the median voter preference (Alesina and Perotti, 1998; Alesina and Spolaore, 2003; Bolton and Roland, 1997; Drazen, 2004; Beramendi, 2012). In another direction, some authors have emphasize the role of the legislative bargain in defining the amount of redistribution (Austen-Smith, 1998; Rodden, 2009).

I discuss two models (and extend one) of interregional redistributive politics. The first is based on the median voter theory (Beramendi, 2007). The second takes into account the fact that under multiparty system with proportional representation parties have to negociate in order to get an outcome as close as possible to their prefered one (Austen-Smith, 1998). Number of legislative seats means bargain power. I argue that at the same time politicians represent their electoral district, in a context with national parties and multipartidarism, representatives from different regions are linked by party ties. **If a regional majority reduces transfer to other regions, members of their party can be electorally punished.** So, the representative can loose bargain power in the next period. **The relation between reducing the transfer to other regions and the expected reduction in the number of seats of the party is taken into account in the decision. This configuration results in an equilibrium solution that can explain why regional majority don't extract as much as they could from rich regions.** If the parties were strictly regional, the resulting equilibrium involves higher extraction in favor of the majoritarian coalition.

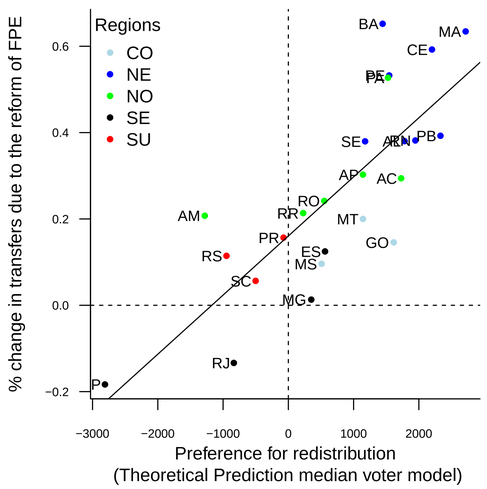

Figure 1: Distribution of the states (dots) inside each region (colors)

Models

The model based on **median voter theory** is

$$U_e = E[U_d] - E[U_c] \propto \frac{1}{2}y + \frac{1}{2}\beta(2\beta w - \lambda y - \theta) * \left(\frac{w}{(\lambda y + \theta)}\right)$$

Variables measured at the regional level

- $E[U(c)](or E[U_c])$: Average utility median voter under interregional redistribution in a decentralized (or centralized) scenario
- β: proportion of employed population ($\lambda = 1 - \beta$)
- y : GDP
- w : median voter income
- θ : $2\beta(w)^2(1 + \sigma_z^2)$: risk of income loss for median voter
- σ : economic risk of unemployment

Representatives choice problem:

$$\max_{\alpha \in \{c,d\}} U_e$$

The alternative model that considers **electoral and legislative incentives** is given by:

$$W_{ij} = y_i - \tau_i + H(g_j, y_i, \bar{y}_j)$$

Where j stands for region, i for individual and

- W_{ij}: utility of individual
- y_i: income
- τ_i: tax/redistribution
- $H(g_j, y_i, \bar{y}_j)$: value of public good g_j for the individual, provided in regional basis (transfers), where $dH/dg_j > 0; d^2H/dg_j^2 < 0; dH/dy_i < 0; dH/d\bar{y}_i < 0$

$$U_{kj} = \sum_{i \in I_j} \pi_{ik}(W_{ij}) + \underbrace{\phi_{Pk}(W_{i \sim j})}_{\text{expected effect on the number of seats}}$$

Where k stands for the representative and j for region

- U_{kj}: utility
- $\pi_{ik}(W_{ij})$: probability i in region j will vote for k as an indirect function of g_j
- ϕ_{Pk}: utility of k from increasing his party size in the legislative in period t+1 given more votes for his party in other regions $\sim j$ as an indirect function of the transfer for those regions.

Representatives choice problem:

$$\max_g U \quad \text{s.t.} \quad \sum_{j \in J} g_j = 1$$

Emprical Models

I estimate the following empirical models to test the predictive capacity of the formal models

(1) $y = \alpha_1 + \beta_m U_e + \epsilon$
(2) $y = \alpha_2 + \beta_m U_e + \boldsymbol{X\beta} + \epsilon$
(3) $y = \alpha_3 + \beta_l U_{kj} + \epsilon$
(4) $y = \alpha_4 + \beta_l U_{kj} + \boldsymbol{X\beta} + \epsilon$
(5) $y = \alpha_5 + \beta_m U_e + \beta_l U_{kj} + \boldsymbol{X\beta} + \epsilon$

where

- y: % transfer with respect to status quo; U_e: Theoretical prediction of preference of representative of state state j for median voter model; U_{kj}: Theoretical prediction of preference of representative of state state j for alternative model; $\boldsymbol{X}$: controls

Case study: Brazilian Constitutional Convention

In the Brazilian Constitutional Convention, the poor regions with low capacity to generate revenue from local taxation (NO, NE, and CO) formed a coalition, as predicted by the median voter model. They demanded centralization and increase of interregional transfers. The majority rule guaranted advantage in the three committees (STPDR, CSTOF, Main Committee) and in Plenary. The figure 1 shows the fitted line of the regression using preferences as predicted by the median voter model and the change in the percentage received by each state with respect to the status quo. The table 1 shows the result of the empirical model. The median voter model is a robust predictor of the outcome.

However, the median voter model is insufficient for understanding the decision. The coalition of the poor regions, although majoritarian, did not extract as much transfer as they could. The majority maximized the transfer to their region subject to not imposing reduction of government revenue to the regions where their party elects many members (captured by ϕ in the alternative model). The solution was to increase the transfer to rich regions using a new regulated fund called FE (increase in $\boldsymbol{g}$ such that $\sum_{j \in J} g_j > 1$) to match their revenue in the status quo. SP and RJ, the two biggest and among richest states, were the only regions that would loose with the reform. As figure 2 shows, the majoritarian coalition approved FE that, after summed to the revenue, exactly matched the amout of transfer they have received before the reform.

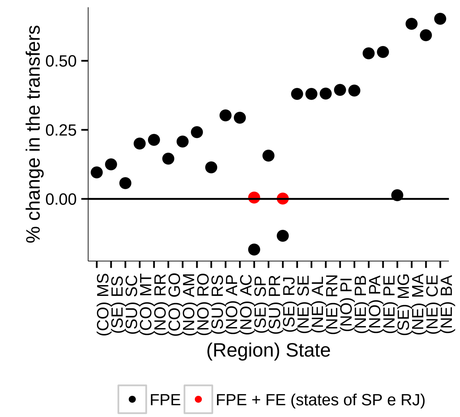

Figure 2: Percentual share of the transfers w.r.t the status-quo after the reform

	(1)	(2)	(3)	(4)	(5)
β_m	0.0001***	0.0001**			0.0001**
	(0.00002)	(0.00004)			(0.00004)
β_l			−0.102**	0.006	0.057
			(0.039)	(0.046)	(0.042)
Adjusted R^2	0.624	0.591	0.197	0.426	0.612
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 1: OLS Regression

Contact Information

- Web: http://www-personal.umich.edu/~dferrari/index.html
- Email: diogoferrari@gmail.com
- Phone: +1 (734) 730-8506