



Are Voters Equal under Proportional Representation?

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The work presented here is part of a larger project. In addition to the paper mentioned in the title, slide 12 draws on work conducted in collaboration with Omer Yair and Maayan Mor. Slide 13 draws on work conducted in collaboration with Liran Harsgor and Or Tuttnauer.

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Evaluating Representation: Are Voters Electorally Equal under Proportional Representation?

- Districted PR is employed by more than half of democratic states
- The study of representation treats it as PR
 - Votes are identified by party: congruence, Disproportionality, ENP
- But
 - Varying district magnitude (DM) , heterogeneity in electoral regimes within states
 - Voters' interests are districted
- Questions
 - Q1: Whose voice is louder? Who are the winners and losers?
 - Q2: How does districting affect voter representational inequality?



A New Approach to Evaluating Representation: Main Findings

Key findings (today)

1. Compared to the electorate, the parliamentary pie is often biased in favor of supporters of right-leaning parties (and large parties)
2. The fraction of parliament elected via small districts affects voter inequality, irrespective of the median (or avg.) district



Geographically Geared Representation under PR

- Voters
 - Vary in their interest by region (more on this below)
- Parties often have to prioritize interests that correlate with districts
 - Subsidize industry vs. agriculture
 - Invest in north or south
- Evidence suggests that representatives are not district-blind in their efforts
 - Bowler and Farrell (1993)
 - Strattman and Baur (2002)
 - Heitshusen et al. (2005)
 - Shugart et al. (2005) on personal vote



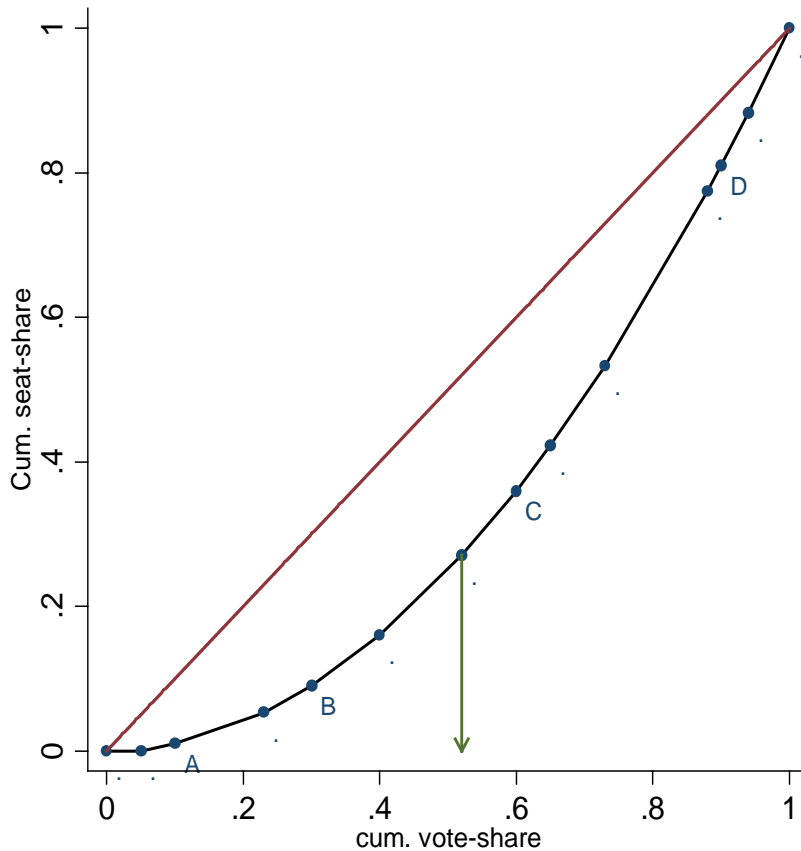
Evaluating Representation under Districted Systems: Setup

	p_1	p_2	.. p_K	Total
d_1	V_{11}, S_{11}	V_{12}, S_{12}		
d_2	V_{21}, S_{21}	V_{22}, S_{22}		
\vdots				
d_N				
Total				V, S

Conversion Ratio (CR): seat-share/vote-share



Representational Inequality (RI)



- inequality curve
 - conversion ratio (CR): seat-share/vote-share
 - How many are underrepresented?
 - How much are they underrepresented?
- RI summary index (area)
- voters supporting different parties residing in same district (A, B)
 - are seats occupied by those parties voters supported?
- voters supporting the same party residing in different districts (A,C)
 - does the party in parliament reflect its electoral base of support?
- any two voters (A,D)



Representational Inequality: Predictions

Within countries

Whose voice is louder?

H1: supporters of right-wing parties are overrepresented compared with their left-wing counterparts, and the effect declines with district magnitude

- Monroe and Rose (2002)
- Rodden (2010)

Across countries

How does the districting structure affect representational inequality?

H2: the greater the share of parliament elected via small districts the greater is inequality



Focus on Districted PR

Advantages

- Prevalence
 - 70% of democracies have proportional representation (PR)
 - 80% of PR systems are districted
- Variation in DM distribution across countries
- The literature often categorizes by middle district

Difficulties

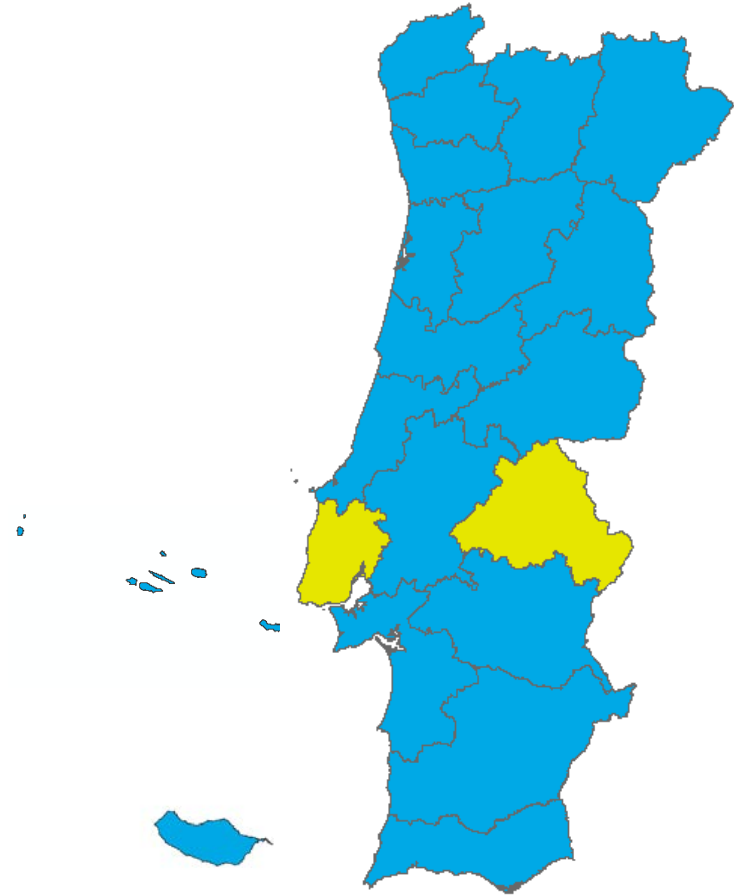
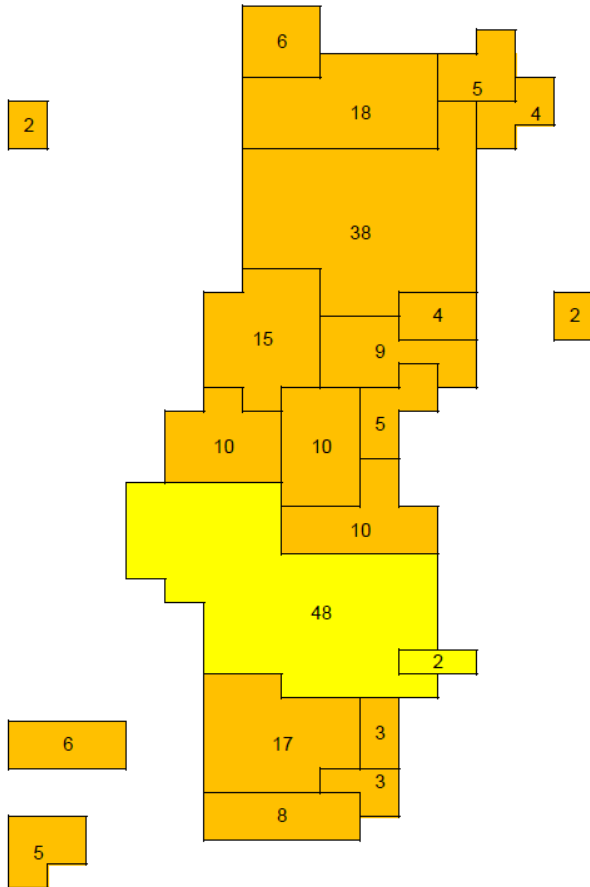
- Compensatory seats (as separate districts or added to current districts)
- Variation in other mechanisms (formula, malapportionment, threshold...)



Example: Portugal (22 Electoral Districts)

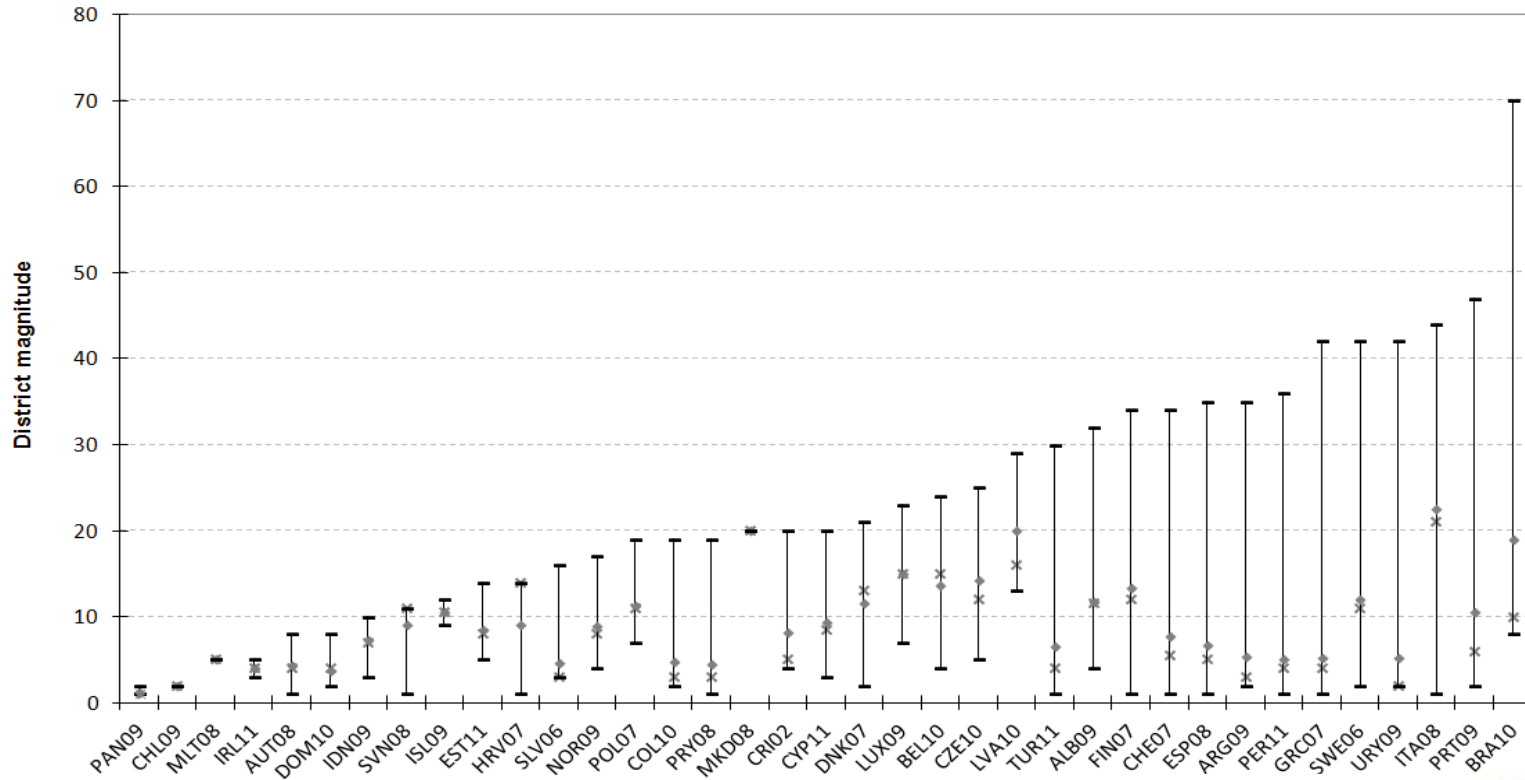


Example: Portugal (22 Electoral Districts)

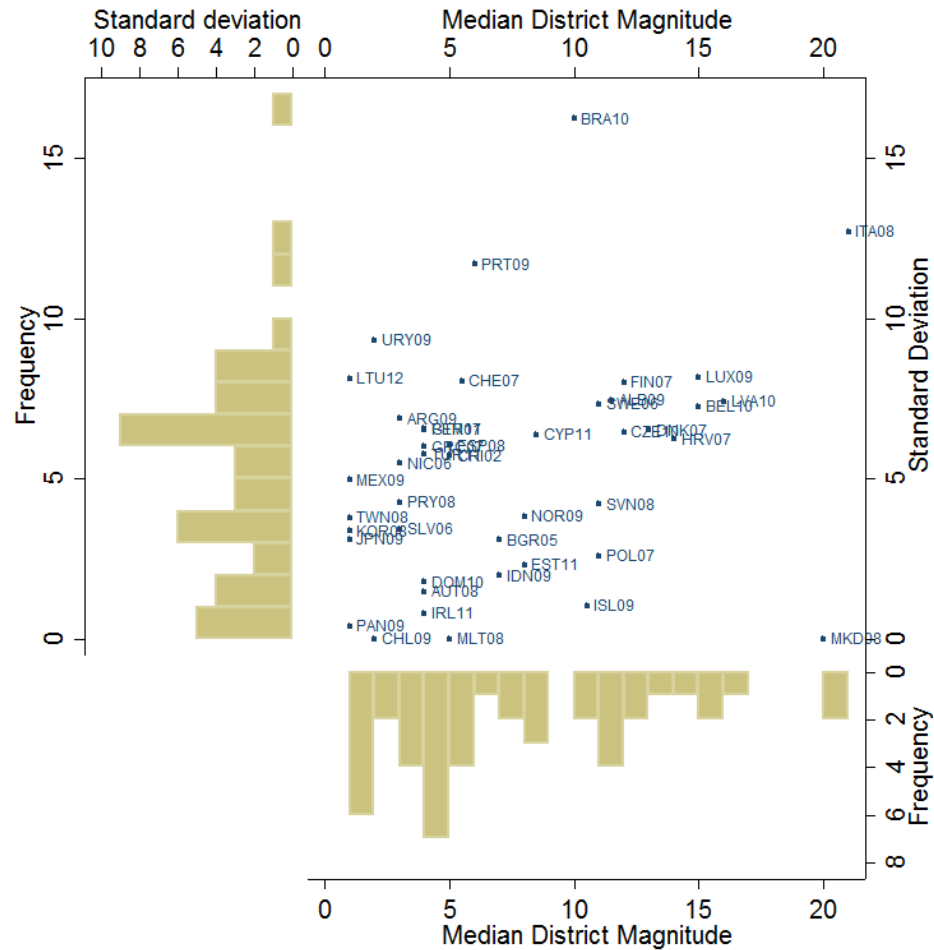


District magnitude in DPR's (data: 'CSES plus')

District magnitude: minimum, median, average, maximum



District magnitudes: medians and standard deviations

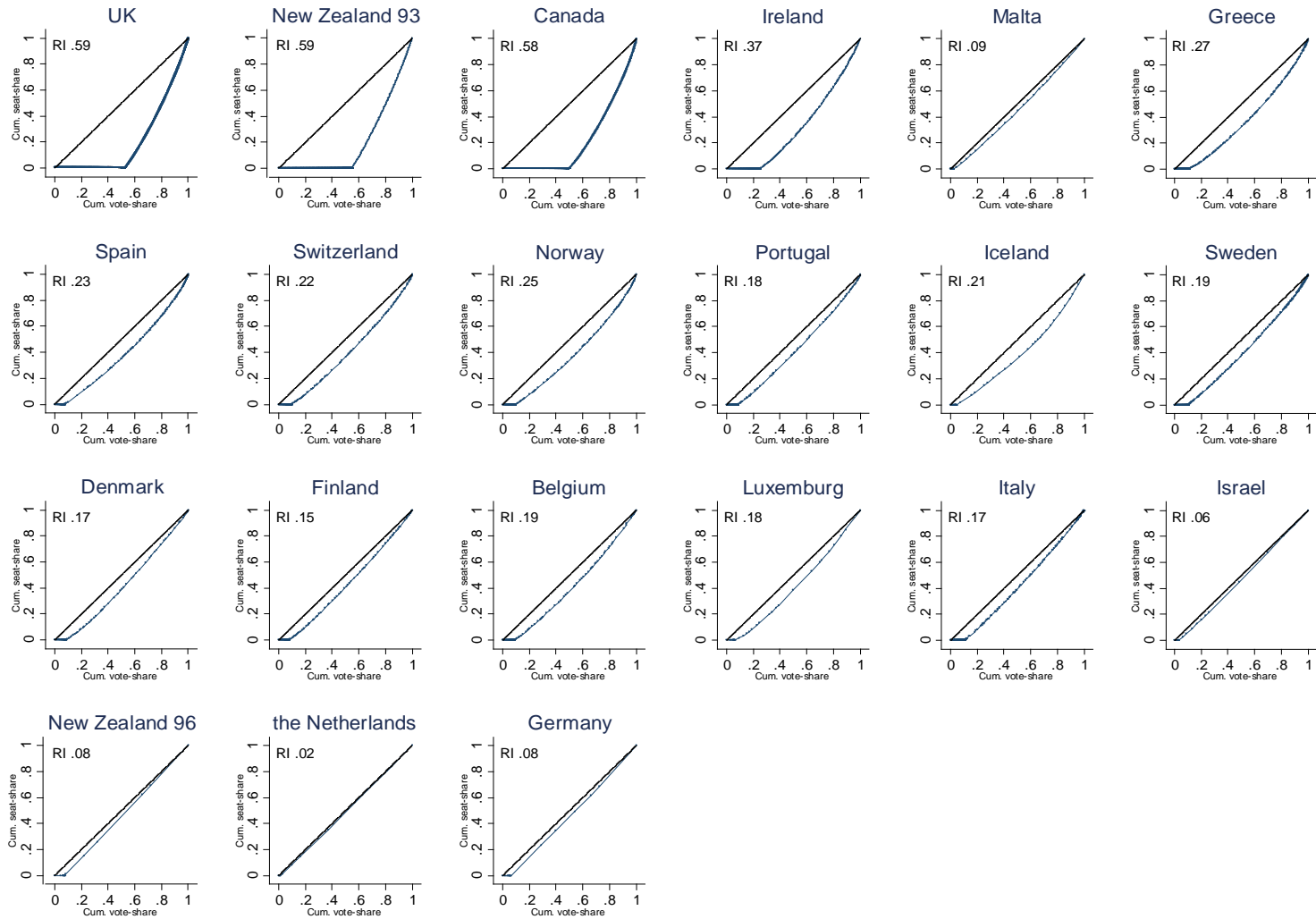


Data used (here)

- Election results (votes, seats) at the district level per country
 - 236 parties (158 in parliaments)
 - 1391 districts (330 in districted PR)
 - 21 Countries:
 - Districted PR:** Belgium (2010), Denmark (2007), Finland (2007), Greece (2007), Iceland (2009), Ireland (2011), Italy (2008), Luxemburg (2009), Malta (2008), Norway (2009), Spain (2008), Sweden (2006), Switzerland (2007), Portugal (2009)
 - Complemented by**
 - National-district PR:** Germany (2009), Israel (2009), New Zealand (1996), the Netherlands (2010)
 - Majoritarian:** Canada (2011), New Zealand (1993), the UK (2010)



Are Voters Equal?



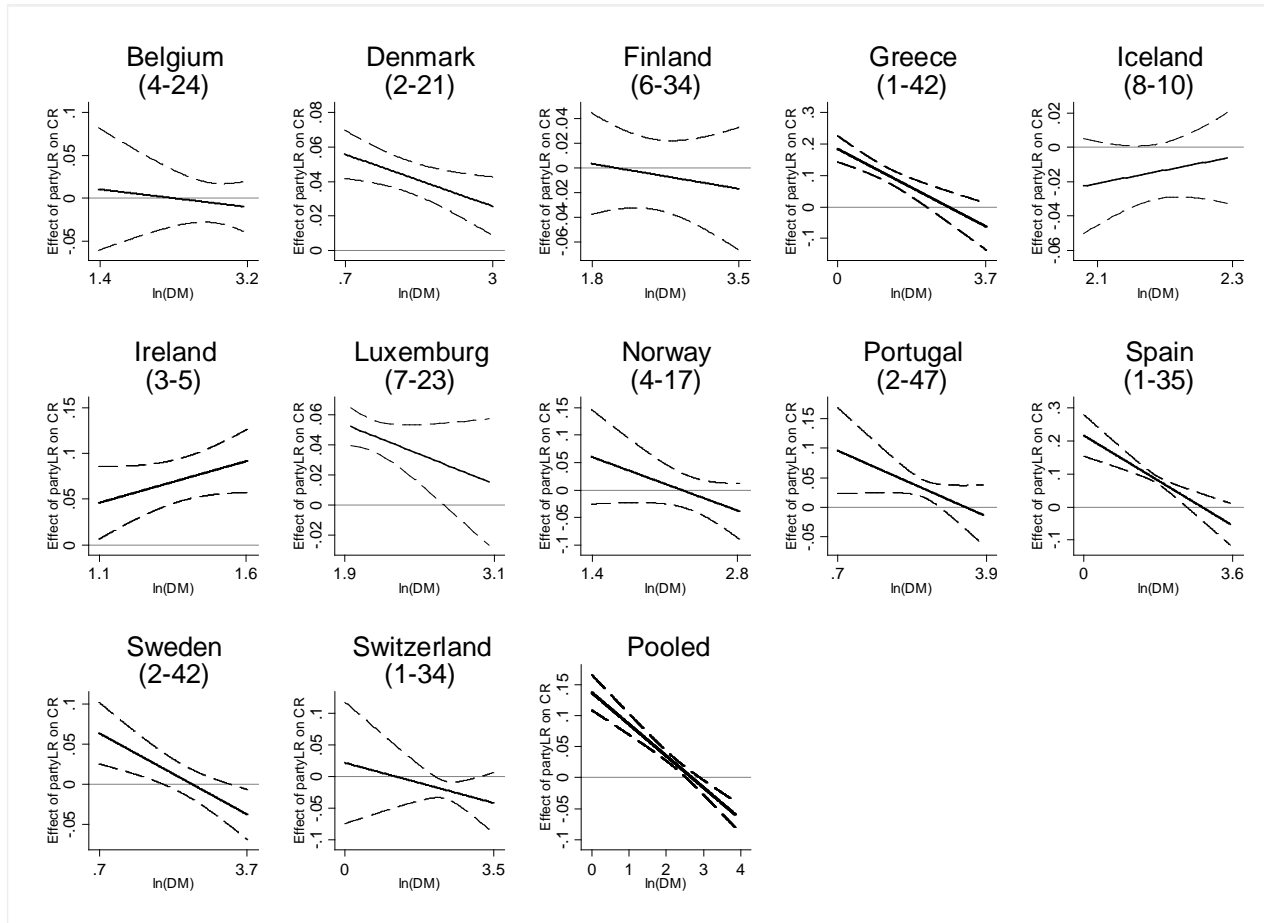
1. Whose Voice Is Louder?

H3: Supporters of right-wing parties are overrep'ted and especially so in small districts

- ideological L-R placement coding of parties (Benoit and Laver, 2006)

- estimate: $CR_{ijc} = b_0 + b_1 dm_{ic} + b_2 LR_{jc} + b_3 dm_{ic} * LR_{jc}$

- should see: small districts: CR(R)>1, CR(L)<1. large districts: no relationship



2. Cross Country: How Does Districting Structure Affect Representational Inequality?

H4: The greater the share of parliament elected via small districts the greater is inequality

$$\text{Estimate: } RI_c = b_0 + b_1 \text{ hump}_c + b_2 \text{ dm}_c$$

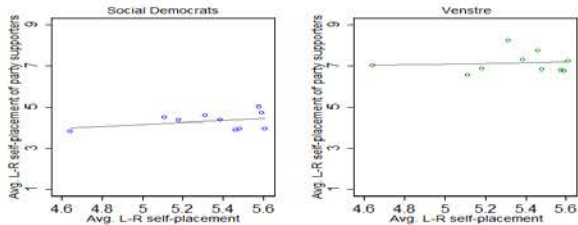
Model	% legislators elected in districts <7, 5, 3		Central DM (med. Leg.)	STV	Electoral formula (Lijphart)	Constant	R ²
i			-0.08 (0.02)	-0.10 (0.07)	0.02 (0.07)	0.41 (0.09)	0.77
ii	%<7	0.32 (0.09)	-0.04 (0.02)	-0.31 (0.08)	-0.02 (0.02)	0.31 (0.07)	0.88
iii	%<5	0.36 (0.03)	-0.04 (0.01)	-0.11 (0.03)	-0.03 (0.01)	0.34 (0.03)	0.97
iv	%<3	0.31 (0.06)	-0.05 (0.01)	-0.02 (0.05)	-0.02 (0.02)	0.37 (0.06)	0.91

* N=20, analysis excludes Switzerland. Other models: avg. DM, med. DM. Alternative electoral formula coding: Rae, Gallagher, Benoit.

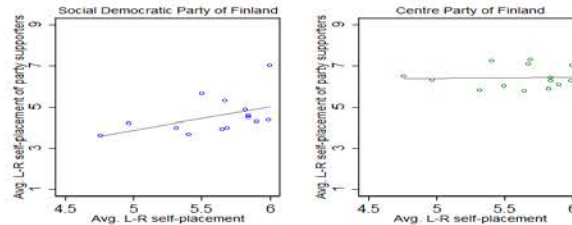


Cross Section (CSES): Self Placement among Supporters of the Same Party Residing in Different Districts

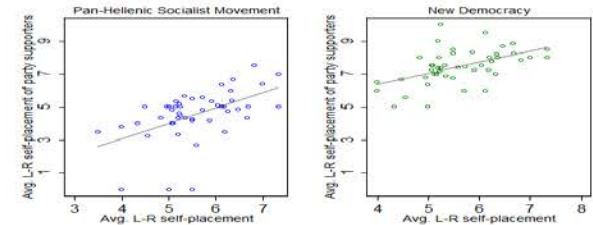
Denmark 2007



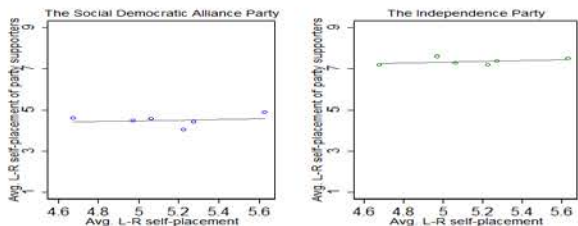
Finland 2007



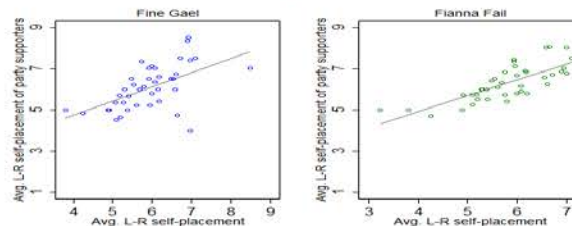
Greece 2009



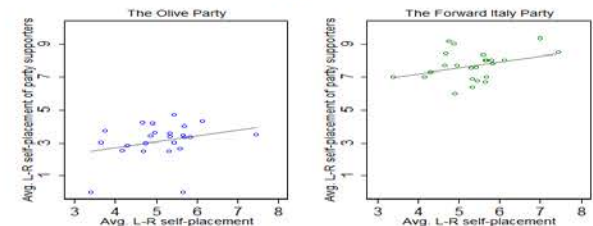
Iceland 2009



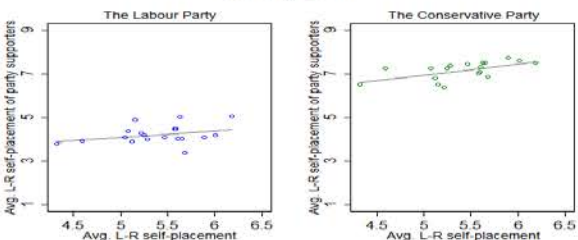
Ireland 2007



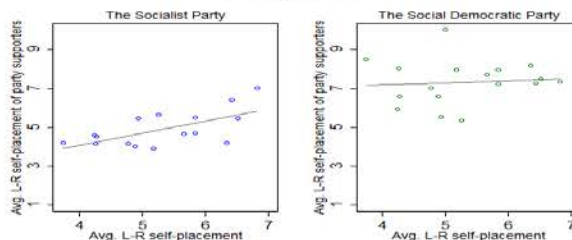
Italy 2006



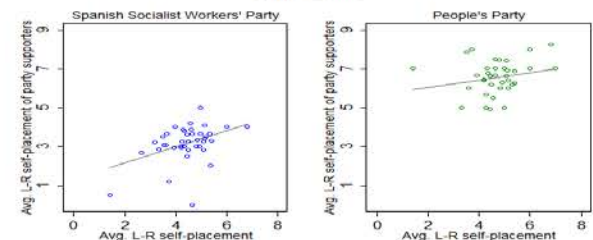
Norway 2009



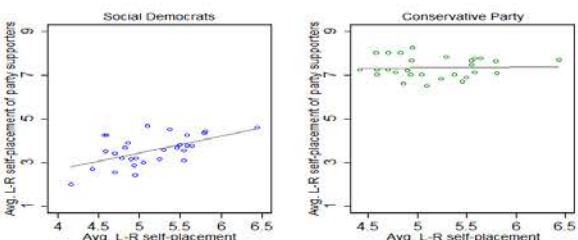
Portugal 2009



Spain 2008



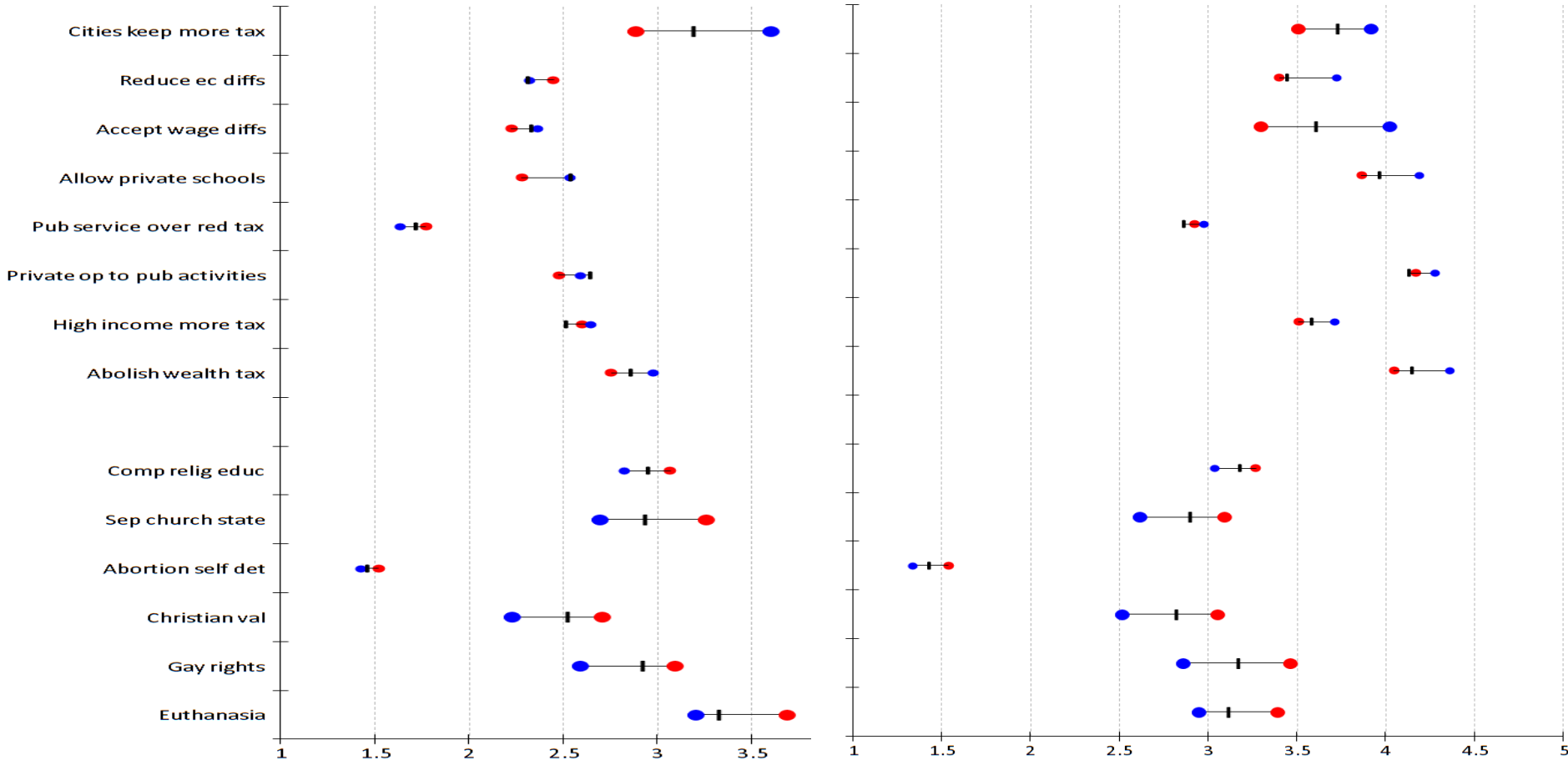
Sweden 2006



Norway 2009: Policy Positions among Supporters of the Same Party Residing in Different Districts

Labour supporters

Conservatives supporters



Oslo vs. West. 1= ec. left, soc. liberal



Conclusion: Unequal Representation of Voters

- The parliamentary pie is often biased in favor of right-leaning (and large) parties compared with the distribution of votes.
 - Bias originates mostly in small districts
- Across countries: the greater the share of parliament elected via small districts the greater is inequality.
- Voters across regions (districts) differ in their positions so over/under representation does not cancel out.
- Representation is not an 'on average' quantity.

