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Voter Behavior as Micropolitical Foundation of Agricultural Protectionism: Estimating a Probabilistic Voting Model of the Agrarian and Non-agrarian Population

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Voter Behavior as Micropolitical Foundation of Agricultural Protectionism: Estimating a Probabilistic Voting Model of the Agrarian and Non-agrarian Population

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Problem

- Politicians often favor special interest groups to increase their reelection prospects, because the special interest groups monitor better the politicians and are more informed about the party platform and therefore show a stronger voter response to politically redistributed welfare when compared to the general public.
- To assess the question of special interest groups politics empirically we separate different voting motives: **policy-oriented** versus **not-policy-oriented (ideologically)**. The more voters are informed about politics the more they vote policy-oriented.
- In this paper we estimate econometrically the importance of policy and non-policy-oriented voting across voter groups: **Which social-economic groups vote the most ideologically?**

Theoretical Model

Probabilistic voter theory: Voter from group J and district n will vote for the governmental party A as long as:

$$W^J(X^A) - W_0^J + K^J[\mu^{Jn} + \delta + h(C^A - C^B)] > 0$$

$W^J(X^A)$ is voter's welfare derived from policy X^A , W_0^J is specific reservation utility, K^J is a group-specific relative importance of ideology compared to economic well-being. C^A and C^B are the campaign contributions received by party A and B . A regional and a national uniform distributed component μ^{Jn} and δ measure the ideological bias of group J . Assume, voters policy preferences correspond to a one-dimensional spatial policy preferences:

$$W^J(X^A) = -|Y^J - Z^A|$$

where Z^A is the policy outcome, Y^J is the preferred policy outcome of voter from group J . Uncertainty component ω is stochastic and uniform distributed with a zero mean and variance of $\frac{1}{2\sigma}$. With stochastic relation $Z^A = X^A + \omega$ and assumption $d = Y^J - X^A$, it follows $W^J(X^A) = -|d - \omega|$.

Expected utility from policy X , $EU(X)$, is:

$$EU(X) = -\sigma \int_{-1/2\sigma}^{1/2\sigma} |d - \omega| d\omega = \dots = -(\sigma d^2 + \frac{1}{4\sigma})$$

Results: the higher the uncertainty, i.e. the higher the variance of ω and the lower is the density σ , the lower is the weight of the policy preference when compared to the ideological preference, i.e. the less informed a voter the more ideologically she votes ceteris paribus.

References

1. **Vermunt, J. K., and Magidson, J. (2005):** Technical Guide for Latent GOLD Choice 4.0: Basic and Advanced, Belmont Massachusetts: Statistical Innovations Inc., 2005
2. **Persson, T. and Tabellini, G. (2000):** Political Economics - Explaining Economic Policy, Cambridge: MIT Press, 2000

Ideological Indicator

Ideological Indicator is a measure of the importance of non-policy versus policy oriented voting derived from a econometrically estimated probabilistic voter model:

1. Extended conditional logit model: $V_i(j) = \alpha_j + \sum_l \gamma_{lj} t_{li} + \sum_n \beta_n d_{ij}^n$, where $V_i(j)$ is utility function of voter i for party j , t_{li} non-policy variable, d_{ij}^n policy variable (Euclidean distance in issue n).
2. Find the point in which all pairs of parties' probabilities to become elected are identical:
 $V_i(j) - V_i(j') = (\alpha_j - \alpha_{j'}) + \sum_l (\gamma_{lj} - \gamma_{lj'}) t_{li} - \sum_n \beta_n (d_{ij}^n - d_{ij'}^n) = 0$
3. Further, we rewrite it: $D_{jj'}^i = \sum_n \frac{\beta_n (d_{ij}^n - d_{ij'}^n)}{\sum_n \beta_n} = \frac{(\alpha_j - \alpha_{j'}) + \sum_l (\gamma_{lj} - \gamma_{lj'}) t_{li}}{\sum_n \beta_n}$

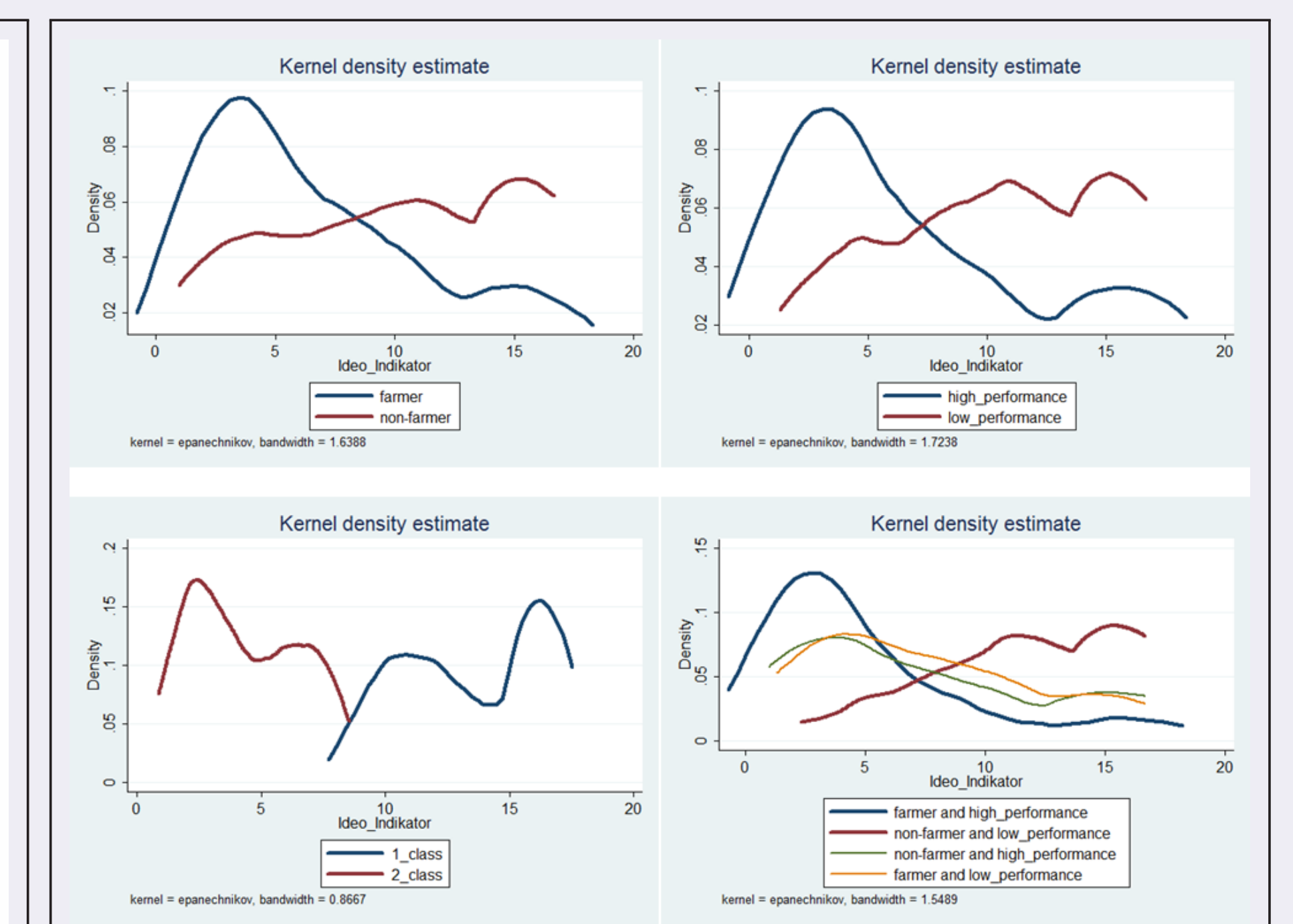
Results: $D_{jj'}^i$ corresponds to the shift in the policy component that compensate the ideological advantage of a party j when compared to another party j' . **Ideological indicator** is the mean of all components $D_{jj'}^i$, i.e. for all party pairs j and j' . The higher the value of the **Ideological indicator** the higher is the importance of non-policy when compared to policy oriented voting for a voter i .

Empirical Model

Data is derived from 391 non-farm and farm household questionnaires for four rural communities in Slovakia. **Estimated model** is $V_i(j) = \alpha_j + \beta_{EU} d_{ij}^{EU} + \beta_{Eco} d_{ij}^{Eco} + \beta_{Soc} d_{ij}^{Soc}$, where d_{ij}^{EU} , d_{ij}^{Eco} , d_{ij}^{Soc} are policy variables (Euclidean distances in three policy dimensions: EU-Subsidies, Economic and Socio-cultural). **Method** 1) Latent Class Analysis (LCA) 2) Evaluation of Ideology indicator for each voter based on the class membership probabilities 3) Kernel density estimation of Ideology indicator for different subsets.

	Class1	z-value	Class2	z-value
Class Size	53.13%		46.87%	
Constants				
HZDS	-0.689	-1.608	0.261	0.703
SDKU	-0.003	-0.013	0.200	0.624
SMER	1.447***	8.033	0.684*	1.803
SMK	0.367*	1.660	0.437	1.313
KDH	-0.446	-1.479	0.085	0.220
SNS	-0.676*	-1.796	-1.666*	-1.960
Attributes				
EU	-0.009	-0.439	-0.736***	-3.415
Eco	-0.065***	-2.649	-0.087	-1.167
Soc	0.004	0.245	-0.704***	-3.591
Class-Membership				
Intercept	1.020*	1.653	-1.020*	-1.653
Covariates				
Age	-0.010	-1.319	0.010	1.319
Education	-0.052	-0.648	0.052	0.648
Income	-0.004	-0.223	0.004	0.223
Farmer	-0.454*	-1.710	0.454*	1.710
High-Performance	-0.488***	-2.387	0.488***	2.387
Distance-to-city	0.184	0.934	-0.184	-0.934

Log likelihood function: -527.206;
 ***p < 0.01; ** p < 0.05; * p < 0.10



Results: LCA provides the best fit for 2-class model. Class membership is significantly determined by occupation status 'farm' vs 'non-farm' employment at the micro level as well as by community performance at the macro level, i.e. 'low' vs 'high' performing communities. **The voters from class 2 are mainly farmers and live in high performing communities, where voters of class 2 vote significantly less ideologically when compared two class 1. The later mainly comprising of non-farmers and inhabitants of 'low performing' communities.**