IN GOVERNMENT WE TRUST?:

Spatializing Public Support for Government Spending

Kristina L. Wright

https://doi.org/10.33774/apsa-2025-1n7m3 **ORCID:** https://orcid.org/0009-0000-2714-4272 Content not peer-reviewed by APSA. **License:** CC BY 4.0

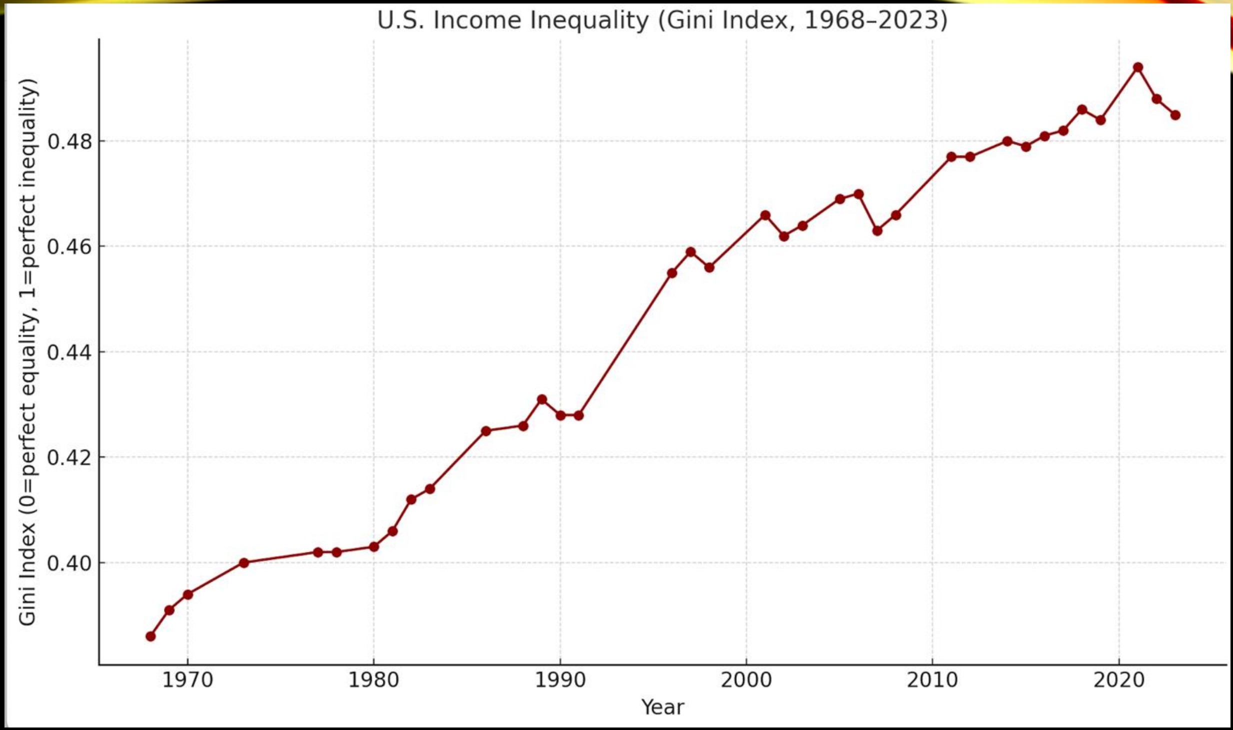
RESEARCH QUESTION

To what extent does Geographically Weighted Regression (GWR) increase sensitivity to local context and explanatory power compared to Ordinary Least Squares Regression (OLS), and how does incorporating a geographic reference advance political science research and policymaking?

https://doi.org/10.33774/apsa-2025-1n7m3 **ORCID:** https://orcid.org/0009-0000-2714-4272 Content not peer-reviewed by APSA. **License:** CC BY 4.0

IMPORTANCE

- Why does geography matter in prediction?
  - It shows where the variables are strong and where the relationships between variables are strong. Important for scholars and policymakers.
- Geographically Weighted Regression (GWR) provides greater sensitivity to local context, essential to better understanding political behavior.
- Specific to the variable relationships: Inequity rising, trust declining, but redistribution often blocked, which is important for democracy and equity.



Data Source: U.S. Census Bureau

- OLS tables generalize and can hide patterns across entire countries, but attitudes can differ across regions/ states. Spatializing local data and analysis through tools such as GWR can help uncover them.
- Spatial begins to approach the individual level and greater sensitivity to local variation.
- Spatial heterogeneity can provide additional theoretical significance (why certain attitudes differ across space/ institutions and methodological innovation (using R and ArcGIS Pro).

https://doi.org/10.33774/apsa-2025-1n7m3
https://orcid.org/0009-0000-2714-4272
CC BY 4.0

CONTRIBUTIONS

- **Gaps in the Literature**
  - **Trust & Redistribution** → Focused on individuals, not spatial variation.
  - **Neoliberalism / Housing** → Emphasizes institutions, neglects spatial attitudes.
  - **Methods** → Lack tools for local variation (GWR).
    - Data restrictions, modeling challenges.
    - OLS conceals geographic differences until mapped.
- This study bridges theory and method by integrating spatial analysis (via GWR) with debates on redistribution that also considers the role of trust and neoliberal housing policy, revealing variation hidden by OLS and national averages.
- Contributions
  - Substantive: spatial analysis of redistribution attitudes.
  - Methodological: combining R OLS + ArcGIS OLS + GWR.
- Each has a strength and contribution that is necessary to increase local sensitivity to produce data that is more democratic and impactful.

https://doi.org/10.33774/apsa-2025-1n7m3 https://orcid.org/0009-0000-2714-4272 CC BY 4.0

THEORETICAL FRAMEWORK

- Housing as political economy (Harvey, Ansell)
- Trust mediates redistribution (Macdonald 2020)
- Neoliberalism & data politicization (Stiglitz; Fishkin & Forbath)
- Measurement bias and better indicator need: (Jones & Klenow)
- Elite-driven inequities via “us vs. them” moral divides: (Morone 2003)
- Spatial heterogeneity:
  - Ties into trust, neoliberalism, redistribution
  - Ignoring = misleading conclusions
- Contribution: integrate comparative political economy + spatial political analysis
- “Why”:
  - ability to spatialize prediction to make policymaking and implementation more targeted and sophisticated.
  - democratic expansion via greater balance between economic and political power, while addressing concerns related to data politicization and bias.

https://doi.org/10.33774/apsa-2025-1n7m3
https://orcid.org/0009-0000-2714-4272
CC BY 4.0

DATA

- ANES (U.S.), CES (Canada), and in the future Sweden as well.
- Unit of analysis: U.S., states, Canada, Provinces and Territories and census districts and MSAs later with special permission following IRB approval from ICPSR, Canada, and Sweden.
- DV: public support for government spending; and IVs (political attitudes and demographics)
  - Moran's I and econometrics.
- Methodological Innovation: integration of spatial regression and visualization as well as democratizing effects of visual pedagogies for policymaking and public communication to respond to mistrust, bias, and data manipulation.

State	Trust	GovSpending	PartyID	Ideology	N
01	2.43	4.05	3.67	4.63	501
06	2.34	4.12	3.65	4.02	2804
12	2.35	4.01	3.84	4.30	1370
36	2.33	4.29	3.53	4.05	1503
48	2.40	3.98	3.67	4.38	2224

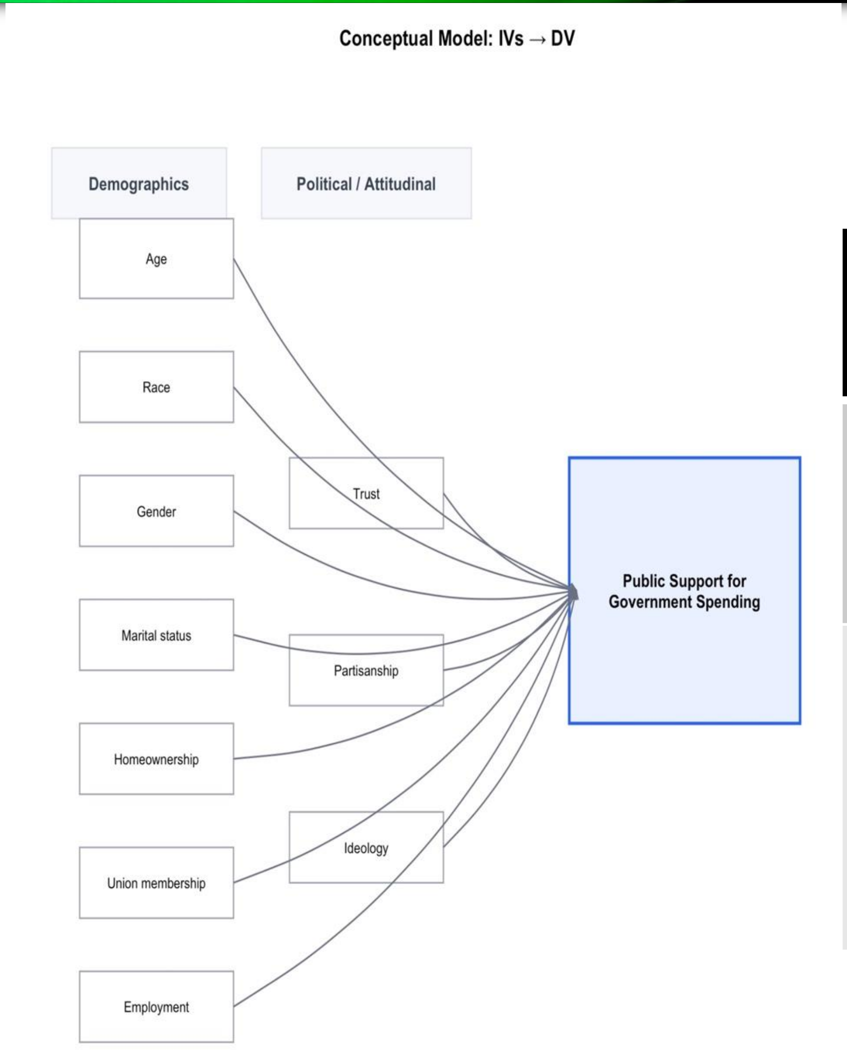
R Formula:

redistribution=β0 + β1 ×trust+ β2 ×age
+ β3 ×education+ β4 ×gender+ β5 ×race
+ β6 ×marital status+ β7 ×home ownership
+ β8 ×union membership+ β9 ×partisanship
+ β10 ×ideology+ ϵ

Where:

- redistribution is the dependent variable
- trust, age, education, gender, race, marital status, home ownership, union membership, partisanship, and ideology are the independent variables.
- β0 is the intercept coefficient
- β1,β2,...,β10 are the coefficients for each independent variable.
- ∈ represents the error term.

https://doi.org/10.33774/apsa-2025-1n7m3
https://orcid.org/0009-0000-2714-4272
CC BY 4.0



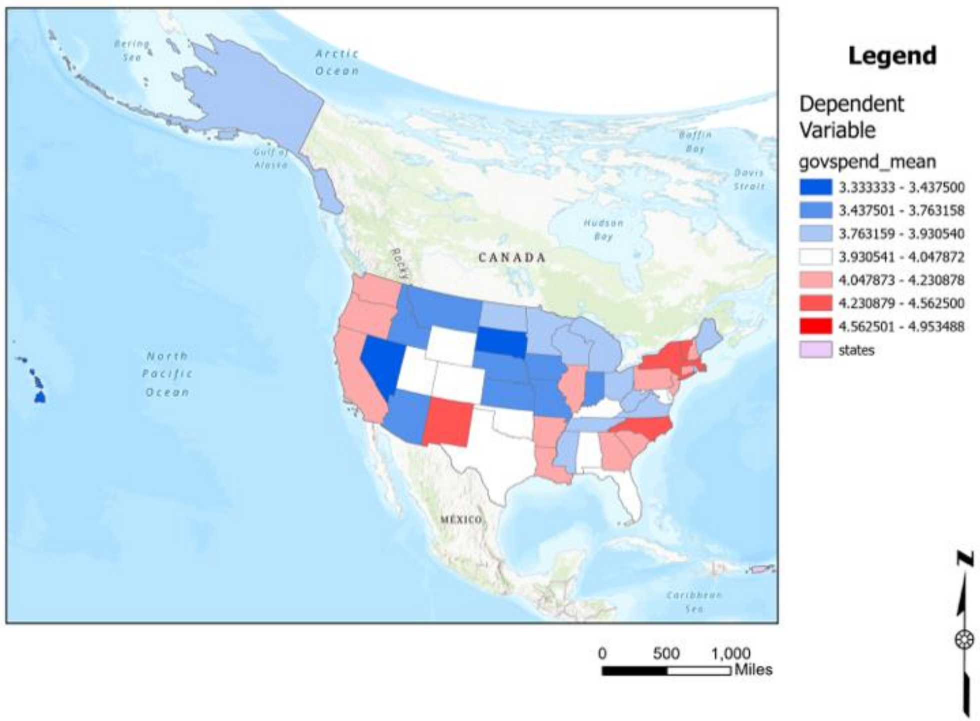
Formulas

Global OLS (R or ArcGIS, multiple Ivs)	Global OLS (ArcGIS, one IV: Partisanship)	Local GWR(ArcGIS, one IV: Partisanship)
GovSpending_i**=\β_**0 +\β_1(Trust_1**)+\β**_2(Age_i)+…+\β_{10}(Ideology_i)+\ϵ_i	GovSpending_i=β_0+β_1(Partisanship)+ϵ_i	GovSpending_i=\β_0(u_i,v_i)+\β_1(u_i,v_i)(Partisanship_i)+\ϵ_i
One set of coefficients for all states. Slope does not change across space.	Simple bivariate linear model. One slope for the entire U.S.	Coefficients vary by location. (u,v)=geographic coordinates. **Maps reveal spatial heterogeneity.**

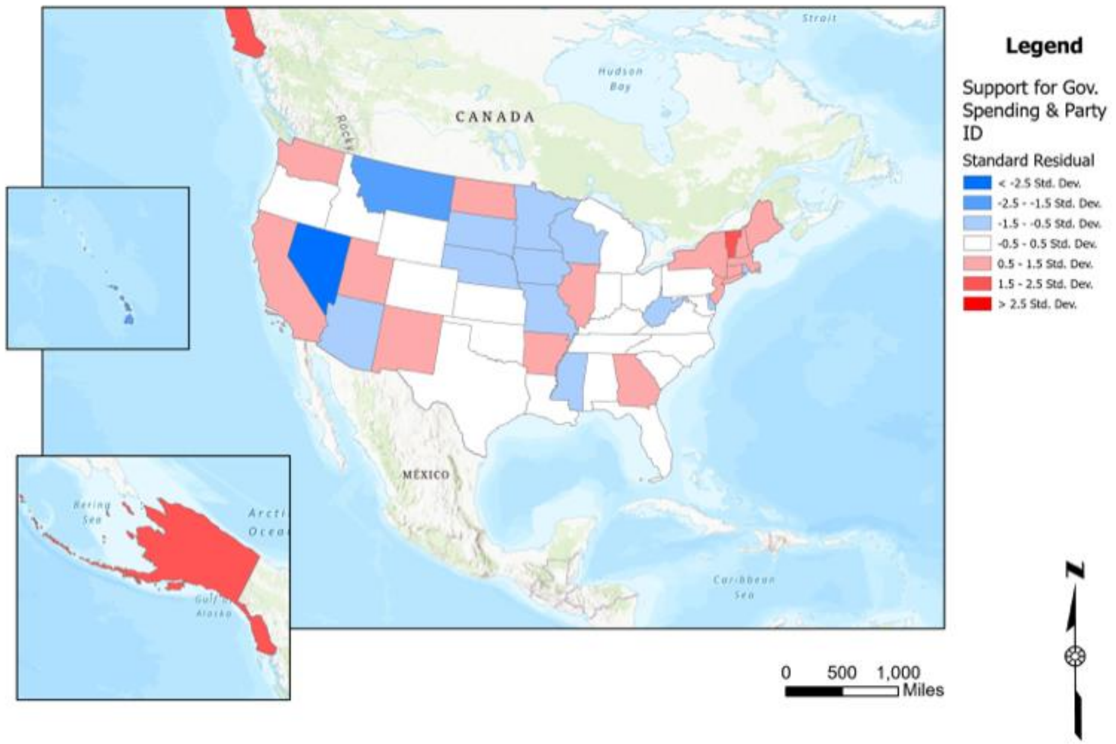
Survey Data → R OLS → ArcGIS OLS → GWR → Analysis and Recommendations

https://doi.org/10.33774/apsa-2025-1n7m3 **ORCID:** https://orcid.org/0009-0000-2714-4272 Content not pe ewed by APSA. **License:** CC BY 4.0

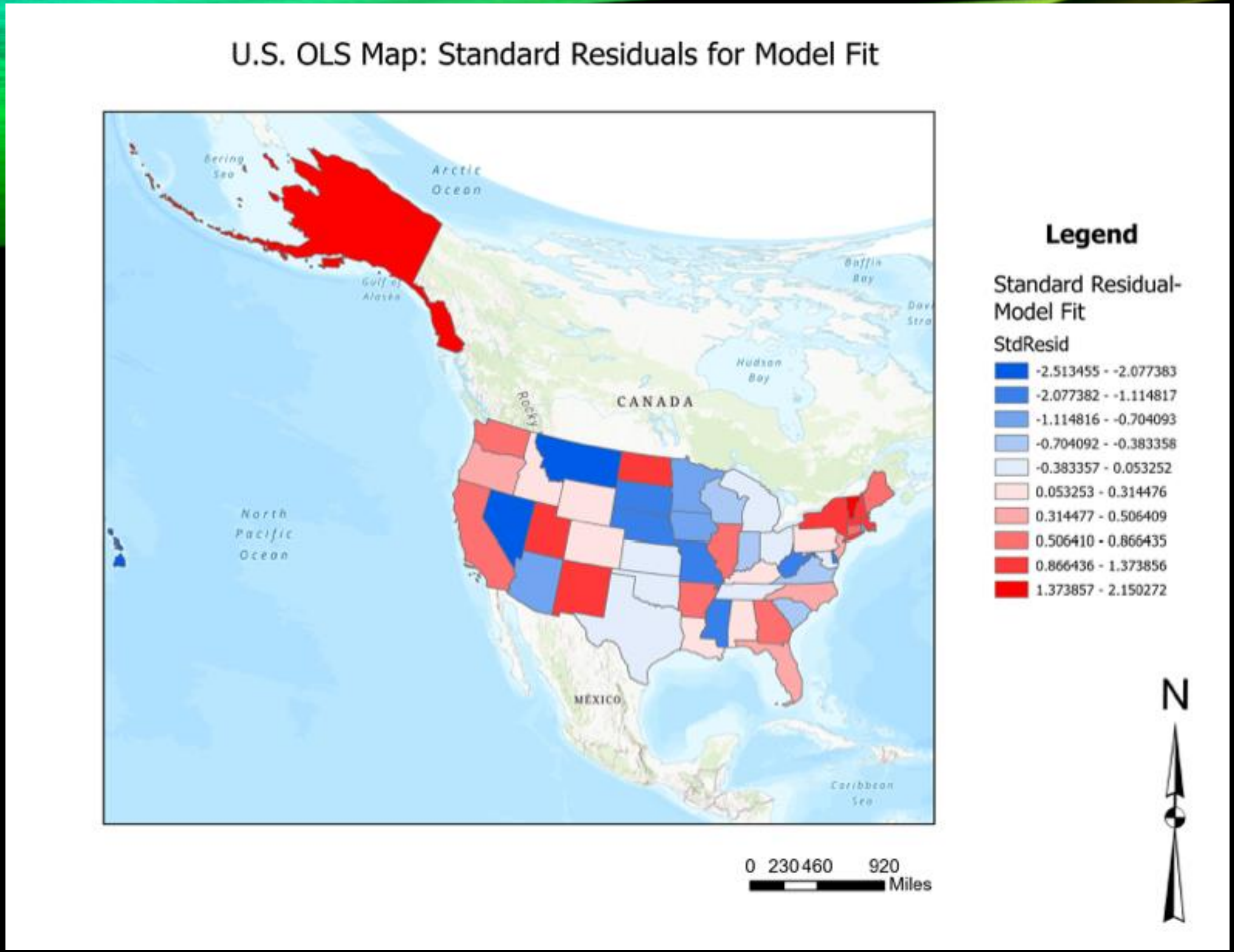
U.S. OLS Map of the Dependent Variable: Government Spending

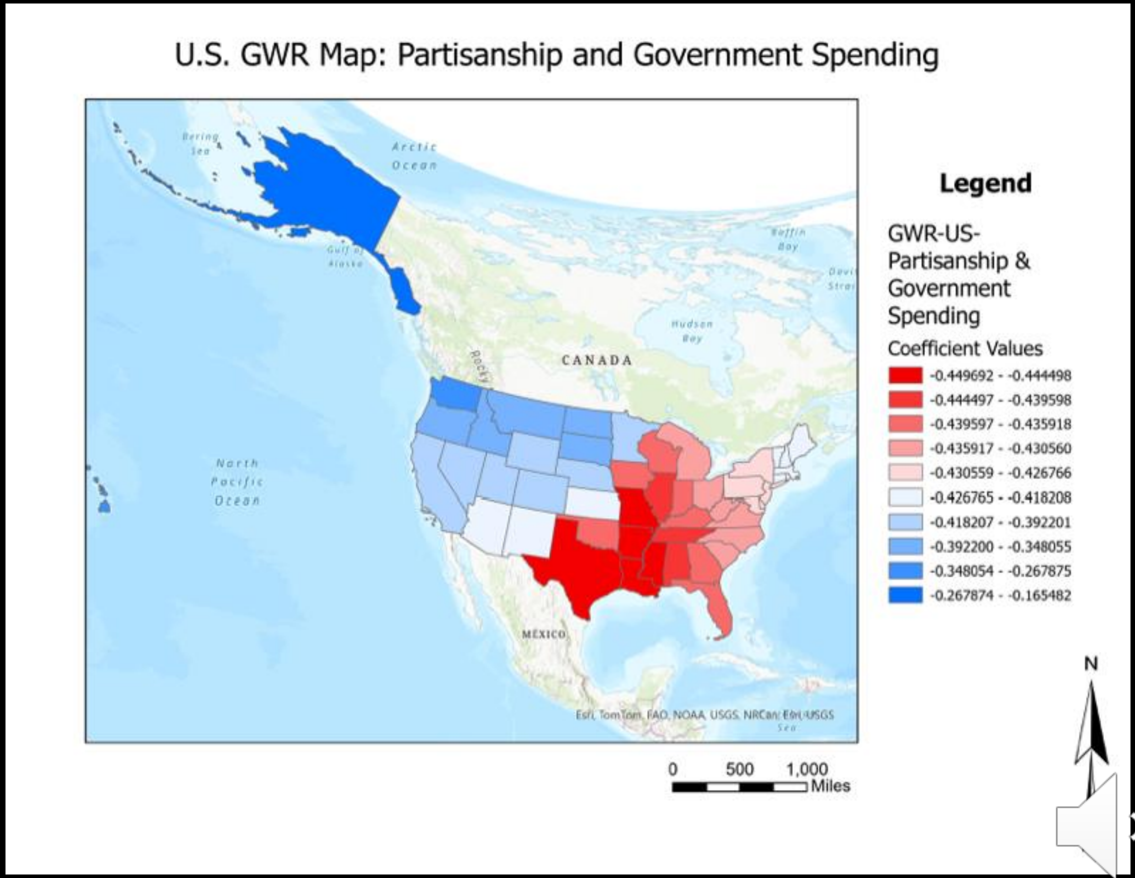


U.S. OLS Support for Government Spending and Party ID

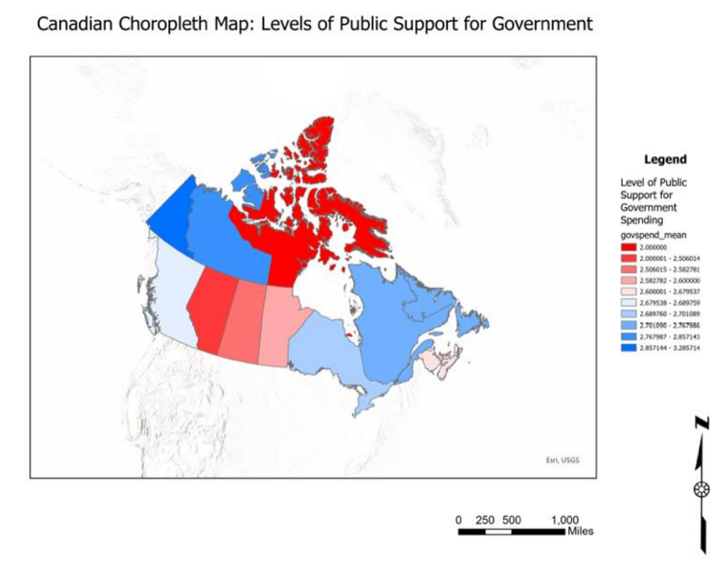


https://doi.org/10.33774/apsa-2025-1n7m3
https://orcid.org/0009-0000-2714-4272
CC BY 4.0



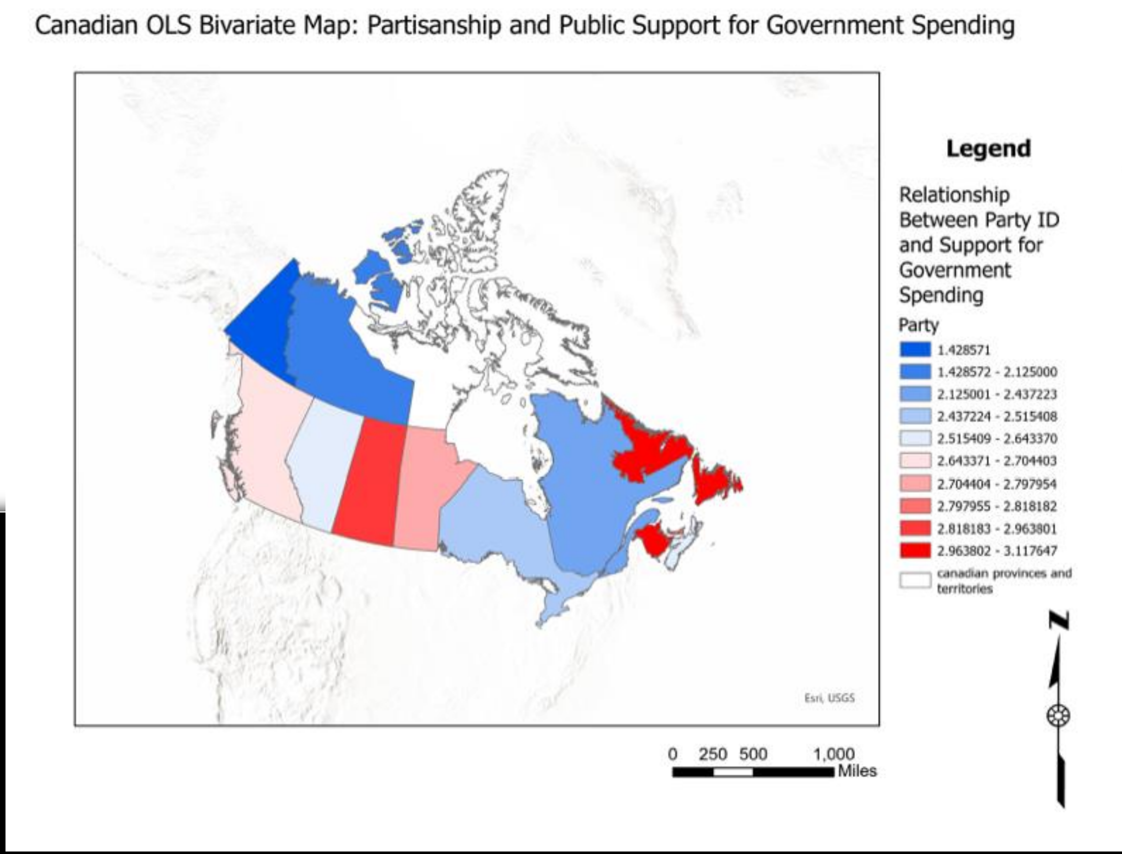


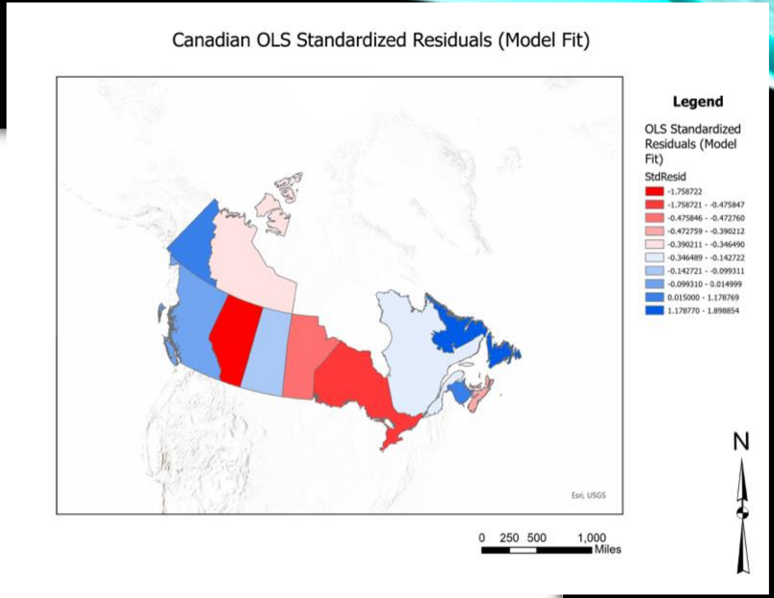
https://doi.org/10.33774/apsa-2025-1n7m3
https://orcid.org/0009-0000-2714-4272
CC BY 4.0



CANADIAN CHOROPLETH DV MAP

CANADIAN OLS BIVARIATE MAP





CANADIAN MODEL FIT MAP

https://doi.org/10.33774/apsa-2025-1n7m3 https://orcid.org/0009-0000-2714-4272 CC BY 4.0

FINDINGS & CONTRIBUTIONS

- Partisanship is one of the strongest, most consistent predictors of support for redistribution. Trust is weaker, on average, but still shows meaningful local variation. OLS masks these differences; GWR reveals them.

Substantive Contributions

- Support for redistribution varies spatially, not just individually
- GWR Shows **where** political and policy reform is most feasible by mapping spatial heterogeneity.
- Bridges debates on redistribution, neoliberalism, housing as political economy, and the politicization of data.

Methodological Contributions

- Expands the political science toolkit: OLS + GWR + ArcGIS Pro.
- Democratizes regression: maps make coefficients and data more interpretable and publicly accessible.
- Advances visual pedagogy: combining regression tables and maps is a best practice for communicating spatial variance and inequality.

https://doi.org/10.33774/apsa-2025-1n7m3 https://orcid.org/0009-0000-2714-4272 CC BY 4.0

BROADER IMPACTS

- **Regression tables→ spatial data**: Provide critical inputs for ArcGIS Pro mapping and policy analysis.
- **Localized sensitivity**: spatialized data + visual communication improve responsiveness of measurement.
- **Housing as political economy:** goes beyond GDP/per capita GDP by revealing heterogeneity and obstacles masked by averages and outliers.
- **Equity and democracy:** local variation in housing and redistribution policy matters for fair outcomes.
- **Methodological advancement**: R + ArcGIS Pro expands data creation, sharing, interpretation in political science.
- **Democratizing access**: maps and visual pedagogy increase public understanding of data.

https://doi.org/10.33774/apsa-2025-1n7m3 https://orcid.org/0009-0000-2714-4272 CC BY 4.0

CONCLUSION

<u>Next steps</u>

- Secure IRB approval and data permissions for MSA-level analyses (Jacksonville, Montreal, & Stockholm).

<u>Key Takeaways</u>

- Support for government spending is driven most by partisanship and ideology, but ***<u>local variation</u>*** reveals where reform is more probable.
- Combining OLS with GWR in ArcGIS Pro highlights not just ***<u>if</u>*** relationships exist, but ***<u>where</u>*** they matter.

https://doi.org/10.33774/apsa-2025-1n7m3
https://orcid.org/0009-0000-2714-4272
CC BY 4.0

SPATIALIZING REDISTRIBUTION REVEALS WHAT OLS TABLES ALONE MAY CONCEAL.

KRISTINA L. WRIGHT
KLWRIGHT@UFL.EDU

THANK YOU!
APSA IPOSTER LINK

https://doi.org/10.33774/apsa-2025-1n7m3 **ORCID:** https://orcid.org/0009-0000-2714-4272 Content not peer-reviewed by APSA. **License:** CC BY 4.0