Beyond Free Riding or Free Racing: A Framework for Understanding Subnational Tax Policy Interdependence

Electronic Supplementary Material

Electronic Supplementary Material

ESM.1 Pre-Analysis Diagnostics

ESM.1.1 Unit Root Tests

Table S.1: Panel Unit Root Tests (State Vehicle Tax Variables)

		Maddala-Wu				CIPS (Pesaran)			
		No Trend		With Trend		No Trend		With Trend	
Variable	Lags	Stat	p-val	Stat	p-val	Stat	p-val	Stat	p-val
State Vehicle Tax (pc, log)	0	42.50	0.982	32.38	1.000	-1.55	0.061	2.36	0.991
State Vehicle Tax (pc, log)	1	169.61	0.001	89.41	0.020	-4.68	0.001	-0.78	0.218
State Vehicle Tax (Δ) (pc, log)	0	325.57	0.001	263.30	0.001	-8.17	0.001	-5.95	0.001
State Vehicle Tax (Δ) (pc, log)	1	149.33	0.001	178.02	0.001	-3.18	0.001	-2.18	0.015
Vertical Fiscal Imbalance	0	306.62	0.001	360.77	0.001	-7.25	0.001	-8.94	0.001
Vertical Fiscal Imbalance	1	136.54	0.001	134.09	0.001	-0.54	0.294	-0.63	0.263
Vertical Fiscal Imbalance (Δ)	0	1101.99	0.001	894.27	0.001	-19.40	0.001	-16.74	0.001
Vertical Fiscal Imbalance (Δ)	1	477.13	0.001	342.10	0.001	-9.69	0.001	-6.20	0.001
Governor Margin	0	65.07	0.439	117.04	0.001	-0.13	0.447	-2.25	0.012
Governor Margin	1	24.43	1.000	26.27	1.000	2.63	0.996	-0.20	0.419
Governor Margin (Δ)	0	337.35	0.001	255.84	0.001	-8.02	0.001	-6.08	0.001
Governor Margin (Δ)	1	197.33	0.001	114.89	0.001	-4.18	0.001	-1.69	0.046
Total State Revenue (pc, log)	0	133.15	0.001	94.84	0.007	-5.84	0.001	-6.16	0.001
Total State Revenue (pc, log)	1	136.94	0.001	92.57	0.011	-1.96	0.025	-3.06	0.001
Total State Revenue (Δ) (pc, log)	0	633.88	0.001	505.72	0.001	-16.92	0.001	-13.48	0.001
Total State Revenue (Δ) (pc, log)	1	275.25	0.001	236.98	0.001	-9.12	0.001	-5.68	0.001
State GDP (pc, log)	0	96.42	0.005	63.07	0.509	2.36	0.991	3.60	1.000
State GDP (pc, log)	1	81.00	0.074	63.39	0.498	2.86	0.998	3.98	1.000
State GDP (Δ) (pc, log)	0	555.60	0.001	450.72	0.001	-8.01	0.001	-6.80	0.001
State GDP (Δ) (pc, log)	1	207.16	0.001	134.09	0.001	-1.25	0.105	0.42	0.662
State Pop. (log)	0	784.21	0.001	351.38	0.001	21.41	1.000	20.42	1.000
State Pop. (log)	1	345.31	0.001	203.81	0.001	1.11	0.867	-4.05	0.001
State Pop. (Δ) (log)	0	254.26	0.001	300.62	0.001	19.47	1.000	0.17	0.568
State Pop. (Δ) (log)	1	393.78	0.001	372.03	0.001	-0.99	0.162	-1.05	0.147
State Pop. (Δ^2) (log)	0	202.41	0.001	228.97	0.001	0.28	0.610	12.97	1.000
State Pop. (Δ^2) (log)	1	294.79	0.001	285.68	0.001	3.18	0.999	13.34	1.000

Notes: Sample period 2008–2024. Null hypothesis: series contains a unit root. Sample includes 32 Mexican states.

ESM.1.2 Cross-Sectional and Spatial Dependence Diagnostics

Table S.2: Cross-Sectional Dependence and Spatial Autocorrelation Tests

Variable	Test	Statistic	p-value
State Vehicle Tax (Δ) (pc, log)	CD test	6.788	0.001
State Vehicle Tax (Δ) (pc, log)	Moran's I (Partisan)	0.111	0.001
State Vehicle Tax (Δ) (pc, log)	Moran's I (Geographic)	0.057	0.035
Vertical Fiscal Imbalance	CD test	2.927	0.003
Vertical Fiscal Imbalance	Moran's I (Partisan)	-0.075	0.001
Vertical Fiscal Imbalance	Moran's I (Geographic)	0.066	0.019
Total State Revenue (pc, log)	CD test	34.255	0.001
Total State Revenue (pc, log)	Moran's I (Partisan)	0.035	0.052
Total State Revenue (pc, log)	Moran's I (Geographic)	0.098	0.001
State GDP (Δ) (pc, log)	CD test	56.871	0.001
State GDP (Δ) (pc, log)	Moran's I (Partisan)	0.533	0.001
State GDP (Δ) (pc, log)	Moran's I (Geographic)	0.574	0.001
Governor Margin (Δ)	CD test	0.573	0.566
Governor Margin (Δ)	Moran's I (Partisan)	0.027	0.102
Governor Margin (Δ)	Moran's I (Geographic)	0.113	0.001

Notes: Sample period 2008–2024. Pesaran's CD test H0: no (weak) cross-sectional dependence. Moran's I test H0: no spatial autocorrelation. Moran's I (Partisan) uses the partisan alignment spatial weights matrix. Moran's I (Geographic) uses geographic contiguity spatial weights matrix. Sample includes 32 Mexican states.

ESM.2 Spatial Weights Matrix Construction

ESM.2.1 Geographic Spatial Weights Matrix Construction

To capture *Horizontal Geographic Competition* for mobile factors, I created an $N \times N$ spatial weights matrix recording whether states i and j share a border (1 = yes, 0 = no), with own-state pairs on the diagonal coded 0. I identify neighbors using queen contiguity, which codes states sharing a border or vertex as neighbors. Recall that first-differencing loses one year's observations, leaving $N = 32$ states and $T = 16$ years (2009–2024). Because geographic contiguity is time-invariant, I placed identical copies of this matrix along the diagonal of an $NT \times NT$ (512×512) block-diagonal matrix, with w_{ij}^{G} denoting a shared border between states i and j. I row-normalize the matrix such that $\sum_{j=1}^{N} w_{ij}^{G} = 1$, so state i's geographic neighbors each receive equal weight summing to one. Shape file data are from INEGI (https://www.inegi.org.mx).

ESM.2.2 Partisan Spatial Weights Matrix Construction

I created 16 yearly $N \times N$ matrices, one for each year from 2009 to 2024. Each records whether states i and j share partisan affiliation that year (1 = yes, 0 = no), with own-state pairs on the diagonal coded 0. I aggregate these into an $NT \times NT$ (512×512) block-diagonal matrix as above, with each element $w_{ij,t}^{P}$ denoting the partisan affiliation shared by states i and j in year t, and row-normalize so that state i's copartisan peers each receive equal weight summing to one. Data are from Magar (2018) and state electoral institutes.

ESM.2.3 Composite Copartisan-Neighbor Spatial Weights Matrix

For each year from 2009 to 2024, I formed the element-wise product of the binary, pre-normalized geographic and partisan matrices, so the composite records a 1 only where states i and j are both geographic neighbors and copartisans in year t. I aggregate these into an

$NT \times NT$ (512×512) block-diagonal matrix as above, with each element $w^{GP}_{ij,t} = w^{G}_{ij}\, w^{P}_{ij,t}$, and row-normalize so that state i's copartisan neighbors each receive equal weight summing to one. Because the composite is the intersection of two channels, about 17% of states each year have no copartisan neighbor; these states retain an all-zero row and contribute a copartisan-neighbor lag of zero that year.

ESM.3 Coding Rules for Governor Horizontal Partisan Alignment

I code yearly governor horizontal partisan alignments in two ways: (1) according to their personal party affiliation and (2) according to their electoral coalition. Yearly copartisan horizontal interactions were determined on the basis of a governor's personal party affiliation, with the electoral coalition used only when a governor shared personal party affiliation with no other governors. This left five governors across five states "orphaned" at some point during their terms, that is, without copartisan peers in any other state in some years. Table S.3 shows which state-year observations are affected, while the particularities for case and its recoding are discussed below. Recodings are needed for 20 state-year observations, affecting 3.9% of the 512 total observations in the 2009–2024 dataset. Recall that the dependent variable and all but one continuous control variable are first-differenced to account for non-stationarity, so the data and recodings begin in 2009.

Table S.3: Coding Orphan Governors, 2009–2024

Affected State	Affected Years	Number Years	Original Party	Original Coalition	Main Recode
Chiapas	2012–17	6	PVEM	PVEM-PRI-PANAL	PRI
Nuevo León	2015–20	6	Independent	None	PRI
Jalisco	2018–20	3	MC	None	PRI
Quintana Roo	2021	1	PRD	PRD-PAN	PAN
San Luis Potosí	2021–24	4	PVEM	PT-PVEM	PRI
Total		20			

Notes: The data are first-differenced, so the data run from 2009 to 2024. There are a total of 512 state-year observations in the 2009–2024 dataset, so recodings affected 3.9% of the observations.

Table S.3 shows the recodings used in the main analyses. (I present alternative recodings used in robustness checks below.) The recodings were determined according to the following decision rules in sequential order:

1. If the governor's largest coalition partner had copartisan peers in another state, assign the governor to that coalition partner's partisan network.
2. If the governor was an independent candidate with a prior party affiliation, assign the governor to that prior partisan affiliation and network.

3. If the governor belonged to a splinter party, assign the governor to the original parent party affiliation.

4. If none of the above applied, assign the governor to her party's most recent state-level coalition partner.

These rules resulted in the following recodings, also shown in Table S.3:

- **Chiapas.** Governor Manuel Velasco Coello was elected under the Partido Verde Ecologista de México (PVEM) in 2012, having won via a PVEM-PRI-PANAL coalition. He was orphaned since no other PVEM governor held office in 2012–2017. Applying Rule 1, I recoded his term as PRI, since his coalition partner PRI had copartisan peers in other states throughout his term. *Years affected*: 2012–2017. *Main Recode*: PVEM → PRI.

- **Nuevo León.** Governor Jaime Rodríguez Calderón ("El Bronco") was elected as an independent in 2015, running without a coalition partner. He was orphaned, since no other independent governor held office during 2015–2020. Rule 1 did not apply since he ran without a coalition partner. Applying Rule 2, I recoded his term as PRI, since he had been a longtime PRI member prior to running as an independent. *Years affected*: 2015–2020. *Main Recode*: Independent → PRI.

- **Jalisco.** Governor Enrique Alfaro Ramírez was elected under Movimiento Ciudadano (MC) in 2018, running alone at the state level. Although he renounced his party affiliation immediately after the election and governed as an independent, I retain his MC affiliation, since independents form no partisan network and his win came under the MC banner. He was nonetheless orphaned: no other MC governor held office in 2018–2020, so Rule 1 did not apply. Applying Rule 3, I assign 2018–2020 to the PRI, since MC originated as a splinter of the PRI, founded in 1999 by former PRI figures. From 2021, Samuel García Sepúlveda (Nuevo León) also governed under MC, forming an MC network and ending the orphan status; Jalisco's coding therefore reverts to MC from 2021 onward, which also preserves García's own MC coding. *Years affected*: 2018–2020. *Main Recode*: MC → PRI.

- **Quintana Roo.** Governor Carlos Manuel Joaquín González was elected under the PRD in 2016, having won via a *PRD-PAN* coalition. He was orphaned in 2021, the final year of his 2016–2022 term, as the PRD had no other state governors nationally that year. Applying Rule 1, I recoded 2021 as PAN, since his coalition partner PAN had copartisan peers in other states. From 2022, the incoming governor (Mara Lezama Espinosa) was a MORENA candidate and required no recoding. *Years affected*: 2021 only. *Main Recode*: PRD → PAN.

- **San Luis Potosí.** Governor José Ricardo Gallardo Cardona was elected under the PVEM in 2021, having won via a PT-PVEM coalition. He was orphaned since no other PVEM governor held office in 2021–2024, and his coalition partner PT also had no gubernatorial peers in those years, so Rule 1 did not apply. He was not

an independent (Rule 2), and the PVEM is not a splinter of any major party but rather a small party organization (Rule 3 inapplicable). I thus use Rule 4. Based on the PVEM's most recent *state-level* coalition partner, I assign 2021–2024 to PRI, reflecting the party's sustained alliance with the PRI in the state (and in national) elections from 2003 through 2018. *Main Recode*: PVEM → PRI.

The coding rules also inform the variable capturing *Vertical Partisan Alignment*. I use the Main Recode when identifying *Vertical Partisan Alignment* in those 20 state-year observations in Table S.3 for all models. As a check of robustness, I use the coding from Alternative Recode and an updated *Vertical Partisan Alignment* indicator reflecting those different party assignments, which are discussed in the main text and presented below.

ESM.4 Analysis of the Post-Legislative Approval Period, 2012–2024

States gained full legislative authority over the vehicle ownership tax on 1 January 2012, so I re-estimate the models on the period of full state fiscal autonomy. (Because the dependent variable is first-differenced, observations run from 2013 to 2024, yielding 384 state-year observations.)

ESM.4.1 Statistical Results: 2012–2024

Table S.4 reports the results. The interaction $\rho_{E\times P}$ remains positive and significant in every specification, across the year trend, presidential-period, trend-plus-period, and year-fixed-effects specifications. The geographic lag ρ_E stays insignificant throughout. In terms of the composite specifications, the composite ρ_{EP} remains statistically insignificant, as shown in Table S.5.

Table S.4: Mexican State Vehicle Tax Policy Interdependence (2012–2024): Conditional Geographic × Partisan Interaction

	(1)	(2)	(3)	(4)
ρ_E W(Geographic)	-0.009	-0.007	0.176	0.189
	(0.145)	(0.147)	(0.145)	(0.150)
ρ_P W(Partisan)	0.373*	0.342*	0.499**	0.477**
	(0.172)	(0.169)	(0.202)	(0.204)
$\rho_{E\times P}$ W(Geo) × W(Party)			0.557**	0.591*
			(0.233)	(0.300)
δ_E Vertical Fiscal Imbalance (%)	-0.005	-0.005	-0.005	-0.004
	(0.011)	(0.011)	(0.011)	(0.011)
δ_P Vertical Partisan Alignment	0.114*	0.146	0.105*	0.152
	(0.059)	(0.129)	(0.057)	(0.138)
State Election	-0.060	-0.077	-0.060	-0.077
	(0.104)	(0.103)	(0.105)	(0.104)
Governor Margin (% Δ)	0.002	0.002	0.002	0.002
	(0.004)	(0.004)	(0.005)	(0.005)
State GDP (pc, log, Δ)	0.165	0.063	0.134	0.040
	(1.003)	(0.972)	(1.021)	(0.977)
Total State Revenue (pc, log)	-0.129	-0.091	-0.117	-0.076
	(0.630)	(0.637)	(0.630)	(0.639)
PAN Governor		0.077		0.106
		(0.212)		(0.228)
PRI Governor		-0.085		-0.069
		(0.073)		(0.085)
PRD Governor		-0.090		-0.066
		(0.189)		(0.208)
MC Governor		-0.002		0.063
		(0.259)		(0.275)
Covid Pandemic 2020	-0.056	-0.055	-0.040	-0.034
	(0.133)	(0.131)	(0.140)	(0.141)
Year Trend	0.015	0.009	0.013	0.009
	(0.014)	(0.014)	(0.014)	(0.013)
Constant	1.505	1.103	1.395	0.926
	(7.097)	(7.144)	(7.064)	(7.124)
State FEs	Yes	Yes	Yes	Yes
Year Trend	Yes	Yes	Yes	Yes
Party Controls	No	Yes	No	Yes
Observations	384	384	384	384
Adjusted R-squared	0.071	0.066	0.074	0.069
AIC	610.7	616.3	608.3	611.7
BIC	642.3	663.7	639.9	655.1
AC p-value	0.585	0.584	0.730	0.742
CDw p-value	0.689	0.594	0.183	0.481
Moran p (Partisan)	0.406	0.342	0.417	0.346
Moran p (Geographic)	0.130	0.117	0.154	0.141

Notes: Depdendent variable is first-differenced logged state vehicle tax per capita. Standard errors clustered by state and year (in parentheses). * p<0.10, ** p<0.05, *** p<0.01.

Table S.5: Mexican State Vehicle Tax Policy Interdependence (2012–2024): Composite Copartisan-Neighbor Interdependence

	(1)	(2)	(3)	(4)
ρ_{EP} W(Copartisan Neighbors)	0.056	0.031	0.001	-0.018
	(0.102)	(0.098)	(0.140)	(0.140)
ρ_E W(Geographic)			-0.009	0.001
			(0.190)	(0.190)
ρ_P W(Partisan)			0.373**	0.345*
			(0.165)	(0.165)
δ_E Vertical Fiscal Imbalance (%)	-0.009	-0.008	-0.005	-0.005
	(0.011)	(0.011)	(0.011)	(0.011)
δ_P Vertical Partisan Alignment	0.171*	0.180	0.114*	0.146
	(0.078)	(0.177)	(0.057)	(0.130)
State Election	-0.081	-0.100	-0.060	-0.075
	(0.101)	(0.102)	(0.103)	(0.103)
Governor Margin (% Δ)	0.003	0.002	0.002	0.002
	(0.004)	(0.004)	(0.004)	(0.005)
State GDP (pc, log, Δ)	0.175	0.019	0.165	0.063
	(1.033)	(0.952)	(1.002)	(0.972)
Total State Revenue (pc, log)	-0.401	-0.331	-0.129	-0.092
	(0.691)	(0.707)	(0.625)	(0.634)
PAN Governor		0.051		0.079
		(0.275)		(0.209)
PRI Governor		-0.147		-0.087
		(0.104)		(0.073)
PRD Governor		-0.165		-0.088
		(0.311)		(0.188)
MC Governor		-0.078		-0.001
		(0.266)		(0.271)
Covid Pandemic 2020	-0.097	-0.098	-0.056	-0.054
	(0.137)	(0.136)	(0.133)	(0.131)
Year Trend	0.021	0.011	0.015	0.009
	(0.017)	(0.017)	(0.014)	(0.014)
Constant	4.384	3.694	1.503	1.123
	(7.718)	(7.806)	(7.038)	(7.098)
State Fixed Effects	Yes	Yes	Yes	Yes
Year Trend	Yes	Yes	Yes	Yes
Party Controls	No	Yes	No	Yes
Geo + Partisan Lags	No	No	Yes	Yes
Observations	384	384	384	384
Adjusted R-squared	0.048	0.047	0.068	0.063
AIC	621.2	623.1	612.7	616.2
BIC	652.8	666.6	648.2	663.6
AC p-value	0.542	0.594	0.584	0.601
CDw p-value	0.505	0.194	0.219	0.317
Moran's I p-value (Partisan)	0.020	0.019	0.016	0.030
Moran's I p-value (Geographic)	0.431	0.484	0.406	0.425

Notes: Dependent variable is first-differenced logged state vehicle tax per capita. Standard errors clustered by state and year (in parentheses). * p<0.10, ** p<0.05, *** p<0.01.

ESM.4.2 Conditional Spatial Multipliers and Effects: 2012–2024

I re-estimate the conditional spatial multipliers and one-standard-deviation shock effects on the 2012–2024 subsample. Tables S.6 and S.7 report the results. The pattern documented in the main text holds, and the partisan effects are stronger. The copartisan multiplier in Panel A is weakest where geographic neighbors cut most heavily ($\rho_P^{eff} = 0.1396$, insignificant) and strongest where they hold roughly stable ($\rho_P^{eff} = 0.5388$, $p < 0.01$), both exceeding the corresponding full-sample (2008–2024) values (0.1318 and 0.4780) shown in the main text. The propagated effects in Table S.7's Panel A follow the same pattern: a one-standard-deviation negative shock generates a significant indirect (cross-state) reduction of about 63% (-0.6290) where partisan dependence runs high, against 48% (-0.4792) in the main full-sample analysis. The geographic channel's conditional dependence parameter ρ_E^{eff} and its indirect (cross-state) effect remain insignificant at each level of copartisan activity, as in the main analysis. That the partisan channel strengthens once the pre-authority years (2008–2011) are dropped indicates that those years, when states still collected the tax under federal rules, attenuate rather than enhance the copartisan result, making the full-sample estimates the more conservative test.

Table S.6: Conditional Spatial Multipliers, by Channel and Conditioner (2012–2024)

Panel A. Partisan Network, by Geographic Conditioner				
Geographic Conditioner Level	ρ_P^{eff}	Own	Cross-State	Total
Low (10th percentile)	0.1396	1.0032***	0.1591	1.1623***
	(0.1327)	(0.0053)	(0.1446)	(0.1464)
Mean	0.3638***	1.0271***	0.5447***	1.5717***
	(0.1228)	(0.0133)	(0.2074)	(0.2201)
High (90th percentile)	0.5388***	1.0782***	1.0901***	2.1683***
	(0.1388)	(0.0362)	(0.3939)	(0.4299)
Panel B. Geographic Network, by Partisan Conditioner				
Partisan Conditioner Level	ρ_E^{eff}	Own	Cross-State	Total
Low (10th percentile)	-0.0962	1.0029***	-0.0948	0.9081***
	(0.1274)	(0.0186)	(0.1150)	(0.1019)
Mean	0.0394	1.0005***	0.0433	1.0438***
	(0.1350)	(0.0100)	(0.1401)	(0.1368)
High (90th percentile)	0.1761	1.0107***	0.2235	1.2343***
	(0.1533)	(0.0138)	(0.2053)	(0.2156)

Notes: Robustness sample (2012–2024 only). Conditional partial multipliers from $S = (I - \rho^{eff} W)^{-1}$, evaluated at the 10th percentile, mean, and 90th percentile of the conditioning lag. Panel A: partisan conduit ($W = W^P$), conditioned on geographic activity $\overline{W^G y} = -0.6452$, -0.2425, 0.0720. Panel B: geographic conduit ($W = W^G$), conditioned on partisan activity $\overline{W^P y} = -0.4890$, -0.2453, 0.0003. Own, Cross-State, and Total effects are the average direct, indirect, and total effects implied by S. See ESM.7. Block-bootstrap standard errors (1,000 draws, 3-year blocks) in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table S.7: Cross-State Effects of a One-Standard-Deviation Tax Cut in a Single State, by Channel and Conditioner (2012–2024)

Panel A. Partisan Network, by Geographic Conditioner				
Geographic Conditioner Level	ρ_P^{eff}	Direct	Indirect	Total
Low (10th percentile)	0.1396	-0.5788***	-0.0918	-0.6707***
	(0.1327)	(0.0030)	(0.0834)	(0.0844)
Mean	0.3638***	-0.5926***	-0.3143***	-0.9069***
	(0.1228)	(0.0077)	(0.1197)	(0.1270)
High (90th percentile)	0.5388***	-0.6221***	-0.6290***	-1.2511***
	(0.1388)	(0.0209)	(0.2273)	(0.2480)
Panel B. Geographic Network, by Partisan Conditioner				
Partisan Conditioner Level	ρ_E^{eff}	Direct	Indirect	Total
Low (10th percentile)	-0.0962	-0.5787***	0.0547	-0.5240***
	(0.1274)	(0.0107)	(0.0664)	(0.0588)
Mean	0.0394	-0.5773***	-0.0250	-0.6023***
	(0.1350)	(0.0058)	(0.0808)	(0.0789)
High (90th percentile)	0.1761	-0.5832***	-0.1290	-0.7122***
	(0.1533)	(0.0080)	(0.1185)	(0.1244)

Notes: Robustness sample (2012–2024 only). Direct, indirect, and total effects of a one-standard-deviation negative shock (0.5770 log-points) to a single state's first-differenced tax collections, propagated through $S = (I - \rho^{eff} W)^{-1}$ and evaluated at the 10th percentile, mean, and 90th percentile of the conditioning lag. Panel A: partisan conduit ($W = W^P$), conditioned on geographic activity $\overline{W^G y} = -0.6452, -0.2425, 0.0720$. Panel B: geographic conduit ($W = W^G$), conditioned on partisan activity $\overline{W^P y} = -0.4890, -0.2453, 0.0003$. See ESM.7. Block-bootstrap standard errors (1,000 draws, 3-year blocks) in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

ESM.4.3 Status-Quo Anchoring at the 2012 Transition

The 2012–2024 subsample also addresses a status-quo anchoring concern. On gaining authority over vehicle tax rates in 2012, states had to choose whether to keep the inherited federal rate or set their own. If copartisans of the national incumbent were more inclined to keep that rate, a shared default rate could mimic copartisan competition. Three considerations address this concern. First, because the dependent variable is first-differenced, anchoring on an inherited *level* is differenced away: a state holding its inherited rate contributes a change of (approximately) zero and adds no (or very little) covariation for identifying the copartisan parameter, which is estimated from states that move. Second, were anchoring driving the result, dropping the pre-authority years (2008–2011) would weaken it; instead the copartisan multiplier strengthens, so those early years attenuate rather than generate the partisan signal. Third, had states been creating a new tax rather than inheriting an existing one, they would have faced the same copartisan competitive pressure, but without a shared administrative history under a common national rate to produce shared anchoring. If anything, this would have strengthened the copartisan signal rather than confounding it. The transferred-authority setting is therefore the more conservative test for copartisan competition.

ESM.5 Alternative Coding Rules for Governor Horizontal Partisan Alignment

I also consider alternative recodings for the orphaned governors. The first three recoding rules are straightforward but Rule 4 could be critiqued. The original Rule 4 focused on state-level coalition partners, which are most relevant to a governor, as follows:

4. Main. If none of the above applies, assign the governor to her party's most recent state-level coalition partner.

However, in some cases, the relationship with a prior state coalition partner may be distant or broken. I thus considered an alternative to Rule 4:

4. Alternative. If none of the above applies, assign the governor to her party's most recent or current national-level coalition partner.

Applying the alternative Rule 4 leads to two state recodings:

- **Jalisco.** Under the main recoding, Rule 3 assigns Governor Enrique Alfaro Ramírez (MC, 2018–2020) to the PRI, treating MC as the PRI splinter from which it originated. The alternative recoding instead applies alternative Rule 4 and assigns him to the PAN, since the MC contested the 2018 presidential election within the PAN-led *Por México al Frente* coalition (PAN–PRD–MC), making the PAN its national-level partner. *Years affected*: 2018–2020. *Alternative Recoding*: MC → PAN.
- **San Luis Potosí.** Under the main recoding, Rule 4 assigns Governor José Ricardo Gallardo Cardona (PVEM, 2021–2024) to the PRI, reflecting the PVEM's state-level alliance with the PRI from 2003 through 2018. The alternative Rule 4 assigns him to MORENA, reflecting the PVEM's realignment into the MORENA-led national bloc from 2018 onward and its formal integration into the MORENA presidential coalition in 2024. *Years affected*: 2021–2024. *Alternative Recoding*: PVEM → MORENA.

These alternative recodings are summarized in Table S.8. The three remaining orphans are unaffected: Chiapas and Quintana Roo are fixed by Rule 1 (a current coalition partner that has copartisan peers), and Nuevo León by Rule 2 (a clear prior party affiliation), so each takes the same assignment under both the Main and Alternative Recodes.

Table S.8: Coding Orphan Governors, 2008–2024

Affected State	Affected Years	No. of Years	Original Party	Original Coalition	Main Recode	Alt. Recode	Null All	Null Spec.
Chiapas	2012–17	6	PVEM	PVEM-PRI-PANAL	PRI	PRI	Null	PRI
Nuevo León	2015–20	6	Ind.	None	PRI	PRI	Null	Null
Jalisco	2018–20	3	MC	None	PRI	PAN	Null	Null
Quintana Roo	2021	1	PRD	PRD-PAN	PAN	PAN	Null	PAN
San Luis Potosí	2021–24	4	PVEM	PT-PVEM	PRI	MORENA	Null	Null

Notes: The data are first-differenced, so they run from 2009 to 2024. Of the 512 state-year observations in the 2009–2024 dataset, recodings affect 20, or 3.9%.

I also consider two additional codings that remove the orphaned governors' partisan ties. The first, which I call "Null All," removes every orphan recoding and treats all twenty orphaned governor-years as having no copartisan alignment: their rows and columns in the partisan weights matrix are zeroed (and the matrix re-normalized), and their *Vertical Partisan Alignment* is set to zero. The second, "Null Specific," nulls only the three orphans whose party assignment is *inferred* rather than named in the coalition through which the governor won—Nuevo León (assigned by prior affiliation), Jalisco (by splinter origin), and San Luis Potosí (by national realignment)—the cases requiring the largest inferential leap. Chiapas and Quintana Roo are retained, since their assigned party (the PRI and the PAN, respectively) lies in their state-level electoral coalition.

Models using these codings are reported in Table S.9. The results are stable across all three codings: both the partisan lag ρ_P and the interaction $\rho_{E\times P}$ retain their sign, magnitude, and significance, while the geographic lag ρ_E remains insignificant throughout, indicating that the central finding does not depend on how, or whether, the orphaned governors' partisan ties are assigned.

Table S.9: Robustness Across Alternative Orphan Coding (2008–2024): Conditional Geographic × Partisan Interaction

	Alternative Recode		Null All Orphans		Null Specific Orphans	
	(1)	(2)	(3)	(4)	(5)	(6)
ρ_E W(Geographic)	0.105	0.094	0.106	0.085	0.125	0.105
	(0.122)	(0.131)	(0.131)	(0.137)	(0.122)	(0.132)
ρ_P W(Partisan)	0.462**	0.432**	0.422**	0.382*	0.450**	0.413*
	(0.192)	(0.201)	(0.188)	(0.196)	(0.185)	(0.194)
$\rho_{E\times P}$ W(Geo) × W(Party)	0.515***	0.485*	0.522***	0.465**	0.565***	0.514**
	(0.167)	(0.237)	(0.158)	(0.205)	(0.181)	(0.227)
δ_E Vertical Fiscal Imbalance (%)	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
δ_P Vertical Partisan Alignment	0.103*	0.068	0.091	0.031	0.091	0.042
	(0.056)	(0.086)	(0.053)	(0.081)	(0.055)	(0.086)
State Election	-0.107	-0.120	-0.108	-0.126	-0.105	-0.121
	(0.092)	(0.091)	(0.094)	(0.092)	(0.093)	(0.091)
Governor Margin (% Δ)	0.004	0.004	0.004	0.004	0.004	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
State GDP (pc, log, Δ)	0.005	-0.052	0.000	-0.069	0.026	-0.048
	(0.631)	(0.614)	(0.663)	(0.618)	(0.651)	(0.608)
Total State Revenue (pc, log)	0.274	0.330	0.250	0.305	0.258	0.317
	(0.351)	(0.319)	(0.377)	(0.338)	(0.370)	(0.331)
PAN Governor		-0.083		-0.143		-0.123
		(0.112)		(0.109)		(0.109)
PRI Governor		-0.166		-0.220		-0.202
		(0.119)		(0.127)		(0.119)
PRD Governor		-0.178		-0.253		-0.227
		(0.195)		(0.205)		(0.205)
MC Governor		0.003		-0.045		-0.020
		(0.368)		(0.368)		(0.376)
Tax Reform Applied 2012	-0.347*	-0.297	-0.355*	-0.284	-0.350*	-0.285
	(0.173)	(0.178)	(0.180)	(0.192)	(0.173)	(0.179)
Covid Pandemic 2020	-0.067	-0.060	-0.083	-0.075	-0.074	-0.067
	(0.100)	(0.096)	(0.097)	(0.092)	(0.098)	(0.091)
Year Trend	0.019	0.007	0.020	0.004	0.020	0.005
	(0.014)	(0.017)	(0.015)	(0.019)	(0.014)	(0.018)
Constant	-2.155	-2.651	-1.901	-2.336	-1.985	-2.478
	(3.816)	(3.391)	(4.097)	(3.580)	(4.032)	(3.515)
Party controls	No	Yes	No	Yes	No	Yes
Observations	512	512	512	512	512	512
Adj. R-squared	0.091	0.088	0.082	0.081	0.086	0.085
AIC	775.5	778.7	780.5	780.4	778.2	778.6
AC test p-value	0.214	0.245	0.224	0.285	0.222	0.271
CDw test p-value	0.455	0.909	0.064	0.789	0.442	0.944

Notes: Dependent variable is first-differenced logged state vehicle tax per capita. Standard errors clustered by state and year (in parentheses). * p<0.10, ** p<0.05, *** p<0.01.

Table S.10: Robustness Across Alternative Orphan Codings (2008–2024): Composite Copartisan-Neighbor Interdependence)

	Alternative Recode		Null All Orphans		Null Specific Orphans	
	(1)	(2)	(3)	(4)	(5)	(6)
ρ_{EP} W(Copartisan Neighbors)	0.013	0.002	-0.039	-0.050	-0.045	-0.056
	(0.101)	(0.098)	(0.096)	(0.091)	(0.092)	(0.086)
δ_E Vertical Fiscal Imbalance (%)	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008
	(0.007)	(0.006)	(0.007)	(0.006)	(0.007)	(0.006)
δ_P Vertical Partisan Alignment	0.135*	0.070	0.135*	0.068	0.135*	0.068
	(0.067)	(0.090)	(0.067)	(0.093)	(0.067)	(0.093)
State Election	-0.105	-0.119	-0.104	-0.119	-0.104	-0.119
	(0.087)	(0.086)	(0.088)	(0.087)	(0.088)	(0.087)
Governor Margin (% Δ)	0.005	0.004	0.004	0.004	0.004	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
State GDP (pc, log, Δ)	0.037	-0.044	0.041	-0.042	0.042	-0.041
	(0.644)	(0.597)	(0.640)	(0.590)	(0.643)	(0.593)
Total State Revenue (pc, log)	0.067	0.127	0.057	0.121	0.055	0.120
	(0.406)	(0.380)	(0.421)	(0.392)	(0.420)	(0.391)
PAN Governor		-0.133		-0.136		-0.137
		(0.105)		(0.107)		(0.107)
PRI Governor		-0.204**		-0.211**		-0.213**
		(0.095)		(0.096)		(0.096)
PRD Governor		-0.238		-0.243		-0.243
		(0.218)		(0.219)		(0.220)
MC Governor		-0.152		-0.164		-0.167
		(0.301)		(0.296)		(0.295)
Tax Reform Applied 2012	-0.453**	-0.380*	-0.474**	-0.398**	-0.476**	-0.401**
	(0.173)	(0.180)	(0.169)	(0.182)	(0.173)	(0.185)
Covid Pandemic 2020	-0.120	-0.119	-0.123	-0.121	-0.123	-0.121
	(0.088)	(0.080)	(0.088)	(0.083)	(0.088)	(0.083)
Year Trend	0.027*	0.013	0.029**	0.014	0.029*	0.014
	(0.014)	(0.017)	(0.013)	(0.018)	(0.014)	(0.018)
Constant	0.123	-0.366	0.219	-0.310	0.242	-0.291
	(4.413)	(4.076)	(4.563)	(4.193)	(4.548)	(4.184)
Party controls	No	Yes	No	Yes	No	Yes
Observations	512	512	512	512	512	512
Adj. R-squared	0.069	0.067	0.070	0.068	0.070	0.069
AIC	787.7	788.4	787.4	785.8	787.3	791.6
AC test p-value	0.224	0.287	0.236	0.304	0.236	0.307
CDw test p-value	0.261	0.464	0.103	0.496	0.117	0.978

Notes: Dependent variable is first-differenced logged state vehicle tax per capita. Standard errors clustered by state and year (in parentheses). * p<0.10, ** p<0.05, *** p<0.01.

ESM.6 Comparing Models with Different Temporal Controls

I also ran models using different temporal-effects specifications: presidential period fixed effects; year trend with presidential period fixed effects; and year fixed effects (where the year trend is not separately identified, since it is collinear with the year dummies and absorbed by them). These models are in Table S.12 for the full 2008–2024 sample and Table S.14 for the 2012–2024 sample with only those years of full state vehicle tax authority. The coefficient $\rho_{E\times P}$ for the interaction effect between the geographic and partisan spatial lags $W(\text{Geo}) \times W(\text{Party})$ remains stable in magnitude across all models—from the year-trend models in the main text through to the year-fixed-effects models. It is significant in all but the fully saturated specification in the 2008–2024 sample, and significant in every specification in the 2012–2024 sample.

Even so, I prefer the year-trend specification, due to a peculiarity of the Mexican political context, and hence the data. Recall that the partisan spatial weight matrix $W(\text{Party})$ is time-varying, with horizontal copartisan relations varying each year, since state elections follow different electoral cycles. Importantly, Mexican states have been heavily dominated by a single party in nearly every year. In the period under examination, a single dominant party bloc held on average 19 governorships, or 59%, rising to 23, or 72%, in 2024. This can be seen in Table S.11.

Identifying time-varying partisan spatial lag effects under year fixed effects is problematic when a single partisan bloc dominates, something related to the time-effect/weight-matrix identification issues discussed by Lee and Yu (2010). The inclusion of year fixed effects means that each year's fixed effect demeans every variable by its cross-state mean in that year, including the spatial lag. If horizontal copartisanship were evenly distributed across two or more parties, each party's copartisan average would be taken over a distinct subset of states and would differ from the national mean, so demeaning would leave ample within-year variation to identify the copartisan effect. This is precisely why the addition of

time fixed effects is less problematic for models examining geographic neighbors only—a state's neighbors form a small subset of states whose average bears no particular relation to the national mean—and therefore why their inclusion is usually recommended.

In the analysis here, however, we examine a time-invariant geographic spatial weight matrix $W(\text{Geographic})$ alongside a time-varying partisan spatial weight matrix $W(\text{Party})$ (and their interaction), in a setting where a single party holds most governorships in every year. Because $W(\text{Party})$ is row-normalized, the partisan spatial lag for each state is the average change in vehicle tax collections among its copartisans. When one party holds most governorships, that average reflects a very large share of the states in the nation—as much as 72% in one year—and therefore approaches the national mean for that year, just the quantity the year fixed effect removes.

In other words, the dominant bloc's partisan lag is nearly collinear with that year's global mean, so demeaning strips out most of the variation that identifies the copartisan effect, leaving ρ_P to be estimated from what little variation remains within the dominant bloc and from the variation among the smaller, non-dominant blocs. This variation is too thin, in aggregate, to identify ρ_P with any precision: it is insignificant under year fixed effects in both samples (Tables S.12 and S.14), collapsing toward zero in the full sample.

The result is structural rather than party-specific: it falls on whichever party is dominant in a given year (the PRI through 2020, MORENA thereafter). Minority blocs retain their own identifying variation, since their lags average over fewer and distinct peers, but they are too small a share of the sample to identify ρ_P on their own. The geographic lag, by contrast, is unaffected because no state has many geographic neighbors, which is why $\rho_{E\times P}$ remains comparatively stable—significant in all but the fully saturated model—while ρ_P collapses as the temporal controls become finer-grained and saturate the model, as shown in Tables S.12, S.13, S.14, S.15. For these reasons, I prefer to use models with year trends.

Table S.11: Horizontal Partisan Distribution of Governorships, 2009–2024

Year	PAN	PRD	PRI	MORENA	MC	Dominant Bloc	Largest Number	Largest Share
2009	7	6	19	0	0	PRI	19	59%
2010	7	6	19	0	0	PRI	19	59%
2011	8	4	20	0	0	PRI	20	63%
2012	6	5	21	0	0	PRI	21	66%
2013	6	5	21	0	0	PRI	21	66%
2014	6	5	21	0	0	PRI	21	66%
2015	6	5	21	0	0	PRI	21	66%
2016	10	5	17	0	0	PRI	17	53%
2017	11	5	16	0	0	PRI	16	50%
2018	11	2	14	5	0	PRI	14	44%
2019	9	2	14	7	0	PRI	14	44%
2020	9	2	14	7	0	PRI	14	44%
2021	8	0	4	18	2	MORENA	18	56%
2022	5	0	4	21	2	MORENA	21	66%
2023	5	0	3	22	2	MORENA	22	69%
2024	4	0	3	23	2	MORENA	23	72%
Average							19	59%

Notes: Number of state governorships held by each party, 2009–2024 (32 states). Recall that the data are first differenced, so the time series runs from 2009–2024. "Dominant Bloc" is the party holding the most governorships that year; "Largest Number" is its count of states; "Largest Share" is that count as a percentage of all 32 governorships. Orphaned governors are assigned to their affiliate party per the rules above.

Table S.12: Robustness Across Time-Control Specifications (2008–2024): Conditional Geographic × Partisan Interaction

	Period FEs		Trend + Period FEs		Year FEs	
	(1)	(2)	(3)	(4)	(5)	(6)
ρ_E W(Geographic)	0.054	0.063	0.055	0.053	-0.128	-0.148
	(0.140)	(0.140)	(0.144)	(0.143)	(0.162)	(0.154)
ρ_P W(Partisan)	0.343	0.344	0.310	0.293	0.047	0.010
	(0.220)	(0.220)	(0.233)	(0.240)	(0.252)	(0.275)
$\rho_{E\times P}$ W(Geo) × W(Party)	0.477**	0.490**	0.496**	0.483*	0.463*	0.413
	(0.192)	(0.221)	(0.205)	(0.244)	(0.260)	(0.291)
δ_E Vertical Fiscal Imbalance (%)	-0.003	-0.003	-0.003	-0.003	0.002	0.001
	(0.007)	(0.006)	(0.007)	(0.006)	(0.006)	(0.006)
δ_P Vertical Partisan Alignment	0.109*	0.123	0.113*	0.095	0.116	0.073
	(0.061)	(0.095)	(0.064)	(0.087)	(0.070)	(0.098)
State Election	-0.096	-0.095	-0.083	-0.091	-0.053	-0.061
	(0.091)	(0.092)	(0.091)	(0.092)	(0.090)	(0.089)
Governor Margin (% Δ)	0.004	0.004	0.004	0.004	0.005	0.005
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
State GDP (pc, log, Δ)	0.058	0.059	0.214	0.186	0.252	0.173
	(0.555)	(0.537)	(0.474)	(0.484)	(0.971)	(0.933)
Total State Revenue (pc, log)	0.440	0.462	0.564	0.579	0.758*	0.733*
	(0.441)	(0.398)	(0.367)	(0.343)	(0.394)	(0.379)
PAN Governor		0.053		-0.032		-0.056
		(0.120)		(0.108)		(0.116)
PRI Governor		0.000		-0.107		-0.119
		(0.092)		(0.105)		(0.141)
PRD Governor		0.008		-0.108		-0.160
		(0.193)		(0.170)		(0.176)
MC Governor		0.023		-0.029		-0.182
		(0.320)		(0.309)		(0.309)
Tax Reform Applied 2012	-0.445***	-0.449***	-0.410***	-0.391**		
	(0.138)	(0.142)	(0.139)	(0.148)		
Covid Pandemic 2020	-0.173	-0.170*	-0.219*	-0.211*		
	(0.102)	(0.091)	(0.115)	(0.102)		
Year Trend			-0.032*	-0.039**		
			(0.016)	(0.018)		
PRI President (2013–18)	0.115	0.112	0.225	0.238		
	(0.105)	(0.114)	(0.145)	(0.144)		
MORENA President (2019–24)	0.350**	0.350*	0.676***	0.681***		
	(0.145)	(0.167)	(0.221)	(0.228)		
Constant	-4.045	-4.299	-5.481	-5.577	-7.902*	-7.517*
	(4.797)	(4.281)	(3.949)	(3.622)	(4.309)	(4.115)
State FEs	Yes	Yes	Yes	Yes	Yes	Yes
Party Controls	No	Yes	No	Yes	No	Yes
Observations	512	512	512	512	512	512
Adj. R^2	0.102	0.095	0.106	0.101	0.128	0.123
AIC	768.3	775.8	766.4	768.9	738.0	744.1
AC test p-value	0.149	0.141	0.151	0.152	0.043	0.046
CDw test p-value	0.055	0.643	0.685	0.715	0.557	0.039
Moran's I p-value (Partisan)	0.112	0.118	0.144	0.163	0.477	0.386
Moran's I p-value (Geographic)	0.236	0.240	0.215	0.211	0.015	0.013

Notes: Dependent variable is first-differenced logged state vehicle tax per capita. Standard errors clustered by state and year (in parentheses). * p<0.10, ** p<0.05, *** p<0.01.

Table S.13: Robustness Across Time-Control Specifications (2008–2024): Composite Copartisan-Neighbor Interdependence

	Period		Trend+Period		Year FE	
	(1)	(2)	(3)	(4)	(5)	(6)
ρ_{EP} W(Copartisan Neighbors)	-0.058	-0.063	-0.069	-0.080	-0.128	-0.138
	(0.106)	(0.104)	(0.102)	(0.097)	(0.104)	(0.098)
δ_E Vertical Fiscal Imbalance (%)	-0.005	-0.005	-0.005	-0.005	-0.000	-0.000
	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
δ_P Vertical Partisan Alignment	0.136*	0.140	0.135*	0.102	0.109	0.074
	(0.066)	(0.098)	(0.066)	(0.082)	(0.074)	(0.091)
State Election	-0.090	-0.091	-0.074	-0.084	-0.042	-0.051
	(0.086)	(0.087)	(0.086)	(0.086)	(0.086)	(0.085)
Governor Margin (% Δ)	0.004	0.004	0.004	0.004	0.004	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
State GDP (pc, log, Δ)	0.104	0.093	0.278	0.236	0.196	0.119
	(0.526)	(0.474)	(0.450)	(0.428)	(0.908)	(0.855)
Total State Revenue (pc, log)	0.347	0.363	0.501	0.522	0.714**	0.717**
	(0.451)	(0.419)	(0.343)	(0.317)	(0.331)	(0.312)
PAN Governor		0.038		-0.058		-0.037
		(0.130)		(0.113)		(0.109)
PRI Governor		-0.031		-0.154		-0.131
		(0.089)		(0.096)		(0.111)
PRD Governor		-0.017		-0.147		-0.144
		(0.219)		(0.202)		(0.170)
MC Governor		-0.074		-0.120		-0.162
		(0.306)		(0.295)		(0.298)
Tax Reform Applied 2012	-0.527***	-0.529***	-0.470***	-0.439***		
	(0.088)	(0.091)	(0.102)	(0.115)		
Covid Pandemic 2020	-0.223***	-0.222***	-0.268***	-0.259***		
	(0.061)	(0.053)	(0.068)	(0.060)		
Year Trend			-0.036*	-0.045**		
			(0.017)	(0.018)		
PRI President (2013–18)	0.138	0.133	0.256**	0.272**		
	(0.093)	(0.105)	(0.119)	(0.116)		
MORENA President (2019–24)	0.425***	0.414***	0.779***	0.781***		
	(0.089)	(0.124)	(0.165)	(0.169)		
Constant	-3.023	-3.193	-4.801	-4.933	-7.273*	-7.196*
	(4.907)	(4.506)	(3.701)	(3.340)	(3.666)	(3.392)
State FEs	Yes	Yes	Yes	Yes	Yes	Yes
Party Controls	No	Yes	No	Yes	No	Yes
Observations	512	512	512	512	512	512
Adj. R^2	0.093	0.087	0.100	0.097	0.115	0.111
AIC	773.2	776.3	770.0	773.5	743.6	749.2
AC test p-value	0.189	0.186	0.193	0.211	0.163	0.179
CDw test p-value	0.212	0.663	0.081	0.605	0.226	0.502
Moran's I p-value (Partisan)	0.056	0.050	0.111	0.124	0.385	0.371
Moran's I p-value (Geographic)	0.500	0.457	0.485	0.470	0.154	0.185

Notes: Dependent variable is first-differenced logged state vehicle tax per capita. Standard errors clustered by state and year (in parentheses). * p<0.10, ** p<0.05, *** p<0.01.

Table S.14: Robustness Across Time-Control Specifications (2012–2024): Conditional Geographic × Partisan Interaction

	Period FEs		Trend + Period FEs		Year FEs	
	(1)	(2)	(3)	(4)	(5)	(6)
ρ_E W(Geographic)	0.125	0.145	0.128	0.142	-0.046	-0.043
	(0.151)	(0.150)	(0.154)	(0.154)	(0.161)	(0.161)
ρ_P W(Partisan)	0.415*	0.388*	0.385	0.351	0.130	0.077
	(0.213)	(0.210)	(0.227)	(0.232)	(0.233)	(0.252)
$\rho_{E\times P}$ W(Geo) × W(Party)	0.508*	0.566*	0.529*	0.573*	0.565*	0.582*
	(0.243)	(0.270)	(0.257)	(0.300)	(0.288)	(0.315)
δ_E Vertical Fiscal Imbalance (%)	-0.002	-0.000	-0.002	-0.001	0.003	0.005
	(0.010)	(0.010)	(0.010)	(0.010)	(0.008)	(0.009)
δ_P Vertical Partisan Alignment	0.117*	0.286*	0.121*	0.237*	0.130	0.250
	(0.060)	(0.135)	(0.063)	(0.118)	(0.075)	(0.158)
State Election	-0.056	-0.060	-0.039	-0.053	0.004	-0.003
	(0.103)	(0.106)	(0.109)	(0.108)	(0.118)	(0.119)
Governor Margin (% Δ)	0.002	0.002	0.002	0.002	0.002	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
State GDP (pc, log, Δ)	0.062	0.130	0.154	0.116	0.421	0.421
	(0.996)	(0.896)	(0.893)	(0.858)	(1.127)	(0.975)
Total State Revenue (pc, log)	0.214	0.315	0.356	0.441	0.538	0.648
	(0.659)	(0.660)	(0.572)	(0.587)	(0.445)	(0.487)
PAN Governor		0.350		0.242		0.276
		(0.228)		(0.207)		(0.253)
PRI Governor		0.102		-0.004		0.019
		(0.081)		(0.072)		(0.140)
PRD Governor		0.187		0.050		0.032
		(0.253)		(0.202)		(0.245)
MC Governor		0.166		0.095		0.009
		(0.234)		(0.223)		(0.255)
Covid Pandemic 2020	-0.129	-0.128	-0.171	-0.169		
	(0.138)	(0.125)	(0.147)	(0.131)		
Year Trend			-0.027	-0.029*		
			(0.016)	(0.016)		
PRI President (2013–18)	-0.190	-0.276**	-0.374***	-0.419***		
	(0.108)	(0.104)	(0.097)	(0.119)		
Constant	-2.080	-3.355	-3.378	-4.396	-5.912	-7.247
	(7.246)	(7.228)	(6.383)	(6.534)	(4.960)	(5.411)
State FEs	Yes	Yes	Yes	Yes	Yes	Yes
Party Controls	No	Yes	No	Yes	No	Yes
Observations	384	384	384	384	384	384
Adj. R-squared	0.085	0.084	0.088	0.087	0.106	0.106
AIC	605.5	605.4	603.1	605.1	585.4	584.5
AC p-value	0.673	0.660	0.691	0.701	0.432	0.463
CDw p-value	0.133	0.184	0.863	0.552	0.761	0.073
Moran p (Partisan)	0.052	0.095	0.069	0.128	0.295	0.482
Moran p (Geographic)	0.447	0.452	0.412	0.410	0.064	0.063

Notes: Depdendent variable is first-differenced logged state vehicle tax per capita. Standard errors clustered by state and year (in parentheses). * p<0.10, ** p<0.05, *** p<0.01.

Table S.15: Robustness Across Time-Control Specifications (2012–2024): Composite Copartisan-Neighbor Interdependence

	Period		Trend+Period		Year FE	
	(1)	(2)	(3)	(4)	(5)	(6)
ρ_{EP} W(Copartisan Neighbors)	0.006	-0.025	-0.008	-0.041	-0.083	-0.110
	(0.104)	(0.101)	(0.098)	(0.102)	(0.116)	(0.113)
δ_E Vertical Fiscal Imbalance (%)	-0.003	-0.002	-0.003	-0.002	0.001	0.003
	(0.011)	(0.011)	(0.010)	(0.010)	(0.009)	(0.009)
δ_P Vertical Partisan Alignment	0.169**	0.346**	0.167**	0.274**	0.132	0.259
	(0.075)	(0.139)	(0.075)	(0.115)	(0.089)	(0.161)
State Election	-0.062	-0.064	-0.038	-0.052	0.022	0.015
	(0.100)	(0.106)	(0.103)	(0.106)	(0.102)	(0.104)
Governor Margin (% Δ)	0.002	0.002	0.002	0.002	0.002	0.001
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)
State GDP (pc, log, Δ)	0.069	0.141	0.187	0.126	0.386	0.394
	(0.945)	(0.828)	(0.819)	(0.795)	(1.054)	(0.893)
Total State Revenue (pc, log)	0.133	0.252	0.322	0.424	0.527	0.635
	(0.724)	(0.721)	(0.588)	(0.608)	(0.422)	(0.476)
PAN Governor		0.385		0.244		0.291
		(0.228)		(0.208)		(0.244)
PRI Governor		0.092		-0.042		0.010
		(0.082)		(0.063)		(0.128)
PRD Governor		0.196		0.023		0.063
		(0.289)		(0.247)		(0.222)
MC Governor		0.085		0.000		-0.011
		(0.224)		(0.209)		(0.247)
Covid Pandemic 2020	-0.199*	-0.198**	-0.245**	-0.241**		
	(0.105)	(0.089)	(0.104)	(0.084)		
Year Trend			-0.033*	-0.037**		
			(0.018)	(0.016)		
PRI President (2013–18)	-0.261**	-0.350***	-0.480***	-0.520***		
	(0.113)	(0.097)	(0.089)	(0.095)		
Constant	-1.187	-2.661	-2.938	-4.111	-5.618	-6.930
	(7.913)	(7.836)	(6.552)	(6.732)	(4.770)	(5.355)
State FEs	Yes	Yes	Yes	Yes	Yes	Yes
Party Controls	No	Yes	No	Yes	No	Yes
Observations	384	384	384	384	384	384
Adj. R^2	0.071	0.073	0.077	0.079	0.095	0.097
AIC	611.9	610.4	610.2	608.7	588.4	589.0
AC test p-value	0.568	0.563	0.593	0.631	0.609	0.667
CDw test p-value	0.399	0.161	0.187	0.314	0.422	0.489
Moran's I p-value (Partisan)	0.054	0.052	0.092	0.093	0.430	0.415
Moran's I p-value (Geographic)	0.435	0.486	0.454	0.456	0.141	0.198

Notes: Dependent variable is first-differenced logged state vehicle tax per capita. Standard errors clustered by state and year (in parentheses). * p<0.10, ** p<0.05, *** p<0.01.

ESM.7 Conditional Spatial Multipliers and Effects: Derivation and Block Bootstrap

This section defines the conditional spatial multipliers and effects reported in the main text and describes the block bootstrap used to obtain their standard errors. Throughout, W^P is the row-normalized partisan weight matrix, W^G the row-normalized geographic (contiguity) weight matrix, and $\overline{W^G y}$ and $\overline{W^P y}$ the geographic and partisan spatial lags of the (first-differenced) dependent variable.

ESM.7.1 *Effective Dependence Parameters*

In the interaction model, the influence of each spatial lag depends on the level of the other. Evaluating the interaction specification at a given value of the conditioning lag yields an effective dependence parameter for each channel:

$$\rho_P^{eff} = \rho_P + \rho_{E\times P}\,\overline{W^G y} \qquad \text{(partisan, conditional on geographic activity)}$$
$$\rho_E^{eff} = \rho_E + \rho_{E\times P}\,\overline{W^P y} \qquad \text{(geographic, conditional on partisan activity).}$$

Each is evaluated at three fixed values of its conditioning lag—the 10th percentile, mean, and 90th percentile observed in the data—treating each as a fixed scenario. These quantities are best interpreted as conditional summaries of the interaction model evaluated at representative values of the conditioning lag rather than as literal parameters of the estimated model (**?**LeSage and Pace 2009).

ESM.7.2 *Conditional Partial Multipliers*

For a given effective dependence parameter, I summarize the implied strength of policy transmission using the spatial multiplier

$$S = (I - \rho^{eff} W)^{-1},$$

using W^P for the partisan channel and W^G for the geographic channel.

I summarize S using the average direct effect, average indirect effect, and average total effect as in LeSage and Pace (2009):

$$\begin{aligned}
\text{Average Total Effect} &= \bar{s}_{i\cdot} = \frac{1}{N} \sum_{i=1}^{N} \sum_{j=1}^{N} s_{ij}, \\
\text{Average Direct Effect} &= \bar{s}_{ii} = \frac{1}{N} \sum_{i=1}^{N} s_{ii}, \\
\text{Average Indirect Effect} &= \bar{s}_{i\cdot} - \bar{s}_{ii} = \frac{1}{N} \sum_{i=1}^{N} \sum_{\substack{j=1 \\ j \neq i}}^{N} s_{ij}.
\end{aligned}$$

Following LeSage and Pace (2009, pp. 36–39), the average total effect is the mean row sum of S and captures the total propagation of a disturbance through the network. The average direct effect is the mean of the diagonal elements of S and captures the effect of a disturbance on the originating state. The average indirect effect is the difference between the two and therefore captures the average cross-state propagation through off-diagonal elements of S.[5] These indirect quantities summarize the dependence structure induced by the spatially lagged dependent variable. Because the specification contains only Wy lags

[5] LeSage and Pace (2009) define the average direct, indirect, and total effects for a change in a covariate. Here I apply the same row-sum, diagonal, and off-diagonal logic to the reduced-form multiplier $S = (I - \rho^{\text{eff}} W)^{-1}$ itself, since the quantity of interest is the propagation of a Wy disturbance through the network rather than a covariate impact.

and no spatial lags of the covariates (WX), they should not be read as covariate spillovers in the sense of one state's covariates affecting another's outcome (LeSage and Pace 2009, pp. 28–30).

These conditional partial multipliers describe how a disturbance propagates through the relevant network at a fixed value of the conditioning lag. Because the estimated specification contains multiple endogenous spatial lags and their interaction, these multipliers should be interpreted as conditional summaries of the interaction model evaluated at a fixed conditioning value rather than as the exact multiplier implied by the full model. The average direct (own) effect is mechanically close to one. Statistical significance for all reported quantities is assessed using the bootstrap procedure described below.

ESM.7.3 *One-Standard-Deviation Shock Effects*

To express the multiplier in interpretable units, I scale it by a concrete disturbance: a one-standard-deviation negative shock to a state's first-differenced tax collections, shock $= -1 \times \mathrm{SD}(\Delta y)$, where $\mathrm{SD}(\Delta y)$ is the standard deviation of the dependent variable in the estimation sample (about 0.5551 log-points in the main 2008–2024 sample; 0.5770 log-points in the 2012–2024 sample). The direct, indirect, and total effects are the corresponding multiplier components scaled by the shock:

$$\text{Direct} = \bar{s}_{ii} \times \text{shock}$$

$$\text{Indirect} = (\bar{s}_{i\cdot} - \bar{s}_{ii}) \times \text{shock}$$

$$\text{Total} = \bar{s}_{i\cdot} \times \text{shock}.$$

The indirect effect is the cross-state multiplier scaled by the shock. Both the conditioning value and the shock size are held fixed across replications, so the resulting standard errors reflect sampling uncertainty in the estimated coefficients, not in the conditioning value or

the shock.

ESM.7.4 *Block Bootstrap*

Because ρ^{eff}, the multipliers, and the effects are nonlinear functions of correlated coefficient estimates, I obtain standard errors by a block bootstrap that preserves the temporal dependence of the panel:

1. *Estimate the model.* Fit the interaction model on the original data to obtain $\hat{\rho}_P$, $\hat{\rho}_E$, and $\hat{\rho}_{E\times P}$, and compute the conditioning values (10th percentile, mean, 90th percentile of the relevant lag) and, for the effects, the shock size; these are held fixed thereafter.

2. *Draw blocks with replacement.* With a block length of three years, draw contiguous three-year blocks with replacement and concatenate them until the series reaches $T = 16$ years, truncating the final block as needed. Years may appear multiple times or not at all.

3. *Construct the bootstrap sample.* For each drawn year, include all 32 states from that year, expanding observations when a year is drawn more than once. This preserves the cross-sectional structure and within-block temporal dependence.

4. *Re-estimate.* Fit the full model on the bootstrap sample to obtain ρ^*_P, ρ^*_E, and $\rho^*_{E\times P}$.

5. *Recompute the quantities.* At each fixed conditioning value, form ρ^{eff*} and the corresponding multiplier $S^* = (I - \rho^{eff*}W)^{-1}$, its direct (own), indirect (cross-state), and total components, and—scaling by the fixed shock—the direct, indirect, and total effects.

6. *Repeat.* Steps 2–5 $B = 1{,}000$ times.

7. *Compute standard errors.* For each quantity $\hat{\eta}$—an effective parameter, multiplier component, or effect—the standard error is the standard deviation of $\hat{\eta}^*$ across the B replications, and significance is assessed with $z = \hat{\eta}/\mathrm{SE}(\hat{\eta})$, where $\hat{\eta}$ is the original-sample point estimate from Step 1.

The procedure is applied identically to the partisan channel (multiplier on W^P, conditioned on $\overline{W^G y}$) and the geographic channel (multiplier on W^G, conditioned on $\overline{W^P y}$).