

The Phantom Race: Municipal Tax Competition Without Consequences in Switzerland

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Abstract

Does municipal tax competition erode public goods? Zodrow and Mieszkowski (1986) predicted that jurisdictions competing for mobile capital would under-provide local public goods, but no clean municipal-level causal test exists. I exploit within-municipality variation in corporate tax multipliers (Steuerfuss) across 140 Canton Zurich municipalities from 2012–2017 to estimate the effect of tax competition on per-capita public expenditure. Despite substantial rate variation—57% of municipality-years exhibit changes—I find no statistically significant effect on total expenditure, education, social security, or transport spending. Minimum detectable effects rule out changes exceeding 7% of mean spending per 10 percentage point rate change. Tax cuts also fail to attract firms: establishment and employment responses are economically small and insignificant. The phantom race—visible tax competition with no detectable consequences for either public goods or firm location—challenges the core welfare argument for harmonization policies like OECD Pillar Two.

JEL Codes: H71, H73, H77

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1. Introduction

Tax competition between local governments is supposed to be costly. The foundational result in [Zodrow and Mieszkowski \(1986\)](#) and [Wilson \(1986\)](#) predicts that jurisdictions competing for mobile capital will set tax rates below the efficient level, leading to systematic under-provision of local public goods. This prediction underpins the normative case for tax harmonization—from the European Code of Conduct for Business Taxation to the OECD/G20 Inclusive Framework’s Pillar Two global minimum tax ([OECD, 2021](#)). If the prediction is wrong, the efficiency cost of tax competition may be smaller than assumed, and the case for coordination weaker.

Yet direct evidence for the spending side of the Zodrow-Mieszkowski mechanism is remarkably thin. The tax competition literature has focused almost exclusively on the strategic interaction channel—whether jurisdictions respond to neighbors’ tax changes ([Brueckner, 2003](#); [Eugster and Parchet, 2019](#); [Parchet, 2019](#))—or on the tax-base channel—whether lower rates attract mobile capital ([Devereux et al., 2007](#); [Krapf and Staubli, 2025](#)). Whether tax competition actually reduces public expenditure, the outcome that matters for welfare, has received far less attention. Cross-country studies face confounding from fiscal equalization and transfer systems ([Keen, 1998](#)); sub-national studies typically lack the within-unit variation needed for a clean panel design ([Revelli, 2005](#)).

This paper provides a direct test. I use a panel of 140 municipalities in Canton Zurich, Switzerland, where each municipality independently sets its own *Steuerfuss* (tax multiplier) annually. The *Steuerfuss* is a percentage applied to the cantonal base rate, creating genuine variation in effective tax burdens across municipalities and over time. Between 2012 and 2017, 57% of municipality-year observations exhibit a non-zero change in the corporate *Steuerfuss*, with 683 cuts and 624 increases. I combine this variation with detailed municipal financial accounts (*Jahresrechnungen*) covering 192 spending categories, and with the federal establishment census (STATENT) for mechanism tests on firm location.

The headline result is a precise null. A one percentage point increase in the corporate *Steuerfuss* has no statistically significant effect on per-capita expenditure in any functional category: total, education, social security, or transport and infrastructure. Point estimates are economically small and statistically indistinguishable from zero. Minimum detectable effects at 80% power rule out changes exceeding 7% of mean spending for a standard 10 percentage point rate change—large enough to detect the effects implied by calibrated tax competition models ([Zodrow, 2007](#)).

The null extends to the mechanism that is supposed to generate spending cuts. If tax competition works through the revenue channel, lower rates should attract firms, but if the

base fails to respond sufficiently, revenue and spending must fall. I find no significant effect of the *Steuerfuss* on either log establishments or log employment. The implied minimum detectable effects rule out establishment changes exceeding 2.2% per 10 percentage point rate decrease. Municipal tax competition in Zurich is a phantom race: municipalities visibly adjust rates—sometimes dramatically—but neither gain firms nor lose public services.

An important descriptive finding illuminates why. Corporate and natural-person *Steuerfuss* rates are correlated at 0.995 across municipality-years: municipalities move all rates in near-perfect lockstep. Tax competition in this setting is not a targeted corporate play; it is a general fiscal stance shift. This suggests that the strategic interaction documented by [Eugster and Parchet \(2019\)](#) and [Parchet \(2019\)](#) in Swiss tax setting may operate more through political signaling and intermunicipal benchmarking than through genuine competition for mobile capital.

This paper contributes to three literatures. First, it extends the tax competition literature from strategic interaction and base effects to the spending outcome that determines welfare, filling the gap identified by [Wilson \(1999\)](#) and [Zodrow \(2007\)](#). Second, it contributes to the fiscal federalism literature on municipal expenditure determination ([Oates, 1999](#); [Weingast, 2009](#)), showing that Swiss municipalities maintain spending levels despite substantial rate variation. Third, it speaks to the policy debate over tax harmonization ([Keen, 2001](#); [OECD, 2021](#)) by demonstrating that the core welfare prediction motivating coordination—that competition erodes public goods—may not hold at the municipal level where variation is most intense.

The remainder of the paper is organized as follows. Section 2 describes Swiss municipal taxation and the institutional setting. Section 3 presents the data. Section 4 details the empirical strategy. Section 5 reports results. Section 6 discusses implications, and Section 7 concludes.

2. Institutional Background

Switzerland’s fiscal federalism is among the most decentralized in the world. The country’s roughly 2,100 municipalities exercise substantial autonomy over local taxation, spending, and public service provision ([Feld et al., 2010](#)). This section describes the key institutional features relevant to identification.

The *Steuerfuss* system. Swiss municipalities do not set tax rates directly. Instead, the canton determines the base tax schedule—defining brackets, rates, and deductions—while each municipality sets a *Steuerfuss* (tax multiplier) that scales the cantonal liability. A municipality

with a Steuerfuss of 110% charges 10% more than the cantonal base; one at 90% charges 10% less. The Steuerfuss is set annually by the municipal legislature (Gemeindeversammlung) or council (Gemeinderat), typically as part of the budget process (Brühlhart et al., 2012).

Corporate vs. natural-person rates. Canton Zurich municipalities set separate Steuerfuss rates for corporate entities (juristische Personen) and natural persons (natürliche Personen). In principle, this allows targeted competition for firms. In practice, the two rates move in near-lockstep: the correlation across municipality-years in my panel is 0.995. This pattern is consistent with political economy models of tax setting where rate changes reflect broad fiscal stance shifts rather than targeted corporate tax competition (Haufler and Schjelderup, 2001).

Variation in rates. Corporate Steuerfuss rates in Zurich canton range from 79% to 149% of the cantonal base, with a cross-municipality standard deviation of 14.2 percentage points. The within-municipality temporal variation is also substantial: 57% of municipality-year observations exhibit a non-zero change, including 42 instances of large cuts (≥ 5 percentage points). Changes cluster around elections and fiscal crises, with both cuts and increases common (683 vs. 624 over 2012–2017).

Municipal spending. Zurich municipalities manage substantial budgets covering education (primary and secondary schools), social services (social assistance, elderly care), transport and infrastructure (municipal roads, public transit), and general administration. Spending decisions are constrained by cantonal mandates in education and social assistance but retain significant discretionary margins in infrastructure, administration, and service levels (Ladner et al., 2013). Mean per-capita total functional expenditure is CHF 2,460, with education accounting for CHF 711 and social security for CHF 493.

3. Data

I combine four administrative datasets, all publicly available from Canton Zurich and the Swiss Federal Statistical Office (BFS).

Steuerfuss panel. The Statistisches Amt of Canton Zurich publishes annual corporate and natural-person Steuerfuss rates for all municipalities. The time series covers 2012–2026 for 179 municipalities. I use the corporate rate (JUR_PERS) as the primary treatment variable and the natural-person rate as a placebo.

Municipal financial accounts (Jahresrechnungen). Canton Zurich publishes detailed municipal income statements (Erfolgsrechnung) for all political municipalities, covering over

90 functional spending categories following the Swiss HRM (Harmonized Accounting Model) classification. Data span 1990–2017. I aggregate spending into five functional categories: education (HRM 200–290), social security (HRM 500–590), health (HRM 400–490), transport and infrastructure (HRM 600–690), and environment (HRM 700–790).

Establishment census (STATENT). The BFS STATENT provides annual counts of establishments and employees at the municipality level for 2011–2023. I use total establishments and total employees across all sectors as mechanism outcomes.

Population. Municipal population counts from the BFS demographic balance (STAT-POP/ESPOP), covering 1981–2024, provide the denominator for per-capita calculations and the population growth control.

The analysis panel merges these sources on BFS municipality number and year, yielding 819 municipality-year observations for 140 municipalities over 2012–2017—the intersection of the Steuerfuss and Jahresrechnungen panels. After removing observations with missing population growth (first year per municipality), the effective sample is approximately 680 observations depending on the outcome.

Table 1: Summary Statistics: Zurich Municipalities, 2012–2017

Variable	Mean	SD	Min	Max	N
Corporate Steuerfuss (%)	117.4	14.2	81	149.3	819
Natural-Person Steuerfuss (%)	105.2	13.0	72	135	819
Corporate Rate Change (pp)	0.4	2.3	-11	22	681
Total Func. Expenditure p.c. (CHF)	2459.5	977.5	1169	4,930.332	819
Education Expenditure p.c. (CHF)	710.8	879.0	-1	2,527.172	802
Social Security Exp. p.c. (CHF)	492.7	189.5	97	1,008.914	802
Transport/Infra. Exp. p.c. (CHF)	209.0	71.8	79	504.6554	805
Tax Revenue p.c. (CHF)	2265.0	1518.1	706	9,795.191	801
Establishments	325.1	304.9	29	1,785	819
Employees	1980.8	2584.9	71	20,212	819
Population	4815.0	4123.0	306	23,726	819

Notes: Municipality-year panel, Canton Zurich. Corporate and natural-person Steuerfuss are municipal tax multipliers applied to the cantonal base rate (%). Functional expenditure categories from Jahresrechnungen (municipal financial accounts). All monetary values in Swiss Francs. Establishments and employees from BFS STATENT.

4. Empirical Strategy

4.1 Identification

I estimate the effect of the corporate Steuerfuss on per-capita municipal spending using a two-way fixed effects specification:

$$Y_{it} = \alpha_i + \gamma_t + \beta \cdot \text{Steuerfuss}_{it}^{\text{corp}} + \delta \cdot \text{PopGrowth}_{it} + \varepsilon_{it} \quad (1)$$

where Y_{it} is per-capita spending in municipality i in year t , α_i are municipality fixed effects absorbing time-invariant municipal characteristics (geography, culture, economic structure), γ_t are year fixed effects absorbing common shocks (cantonal policy changes, macroeconomic conditions), and PopGrowth_{it} controls for demographic shifts that mechanically affect per-capita calculations. Standard errors are clustered at the municipality level.

The coefficient β identifies the effect of within-municipality Steuerfuss changes on spending, conditional on year effects. The identifying assumption is that, within a municipality, Steuerfuss changes are not driven by anticipated spending needs or economic conditions, after controlling for common year effects and population dynamics.

4.2 Threats to Validity

The primary concern is reverse causality: municipalities may cut rates precisely when they expect revenue growth from other sources (e.g., construction booms, new employers), or raise rates when facing fiscal pressure. Two features of the setting mitigate this concern.

First, Steuerfuss changes are politically determined through local democratic processes— assemblies, councils, and sometimes referenda—making rapid fiscal adjustment difficult. Proposed changes must typically be announced and debated in advance, introducing political frictions that weaken the link between contemporaneous economic conditions and rate changes.

Second, I implement a placebo test using the natural-person Steuerfuss. If corporate rate changes drive spending through a corporate-specific channel, the natural-person rate should show a different pattern. The near-perfect correlation between the two rates ($r = 0.995$) means this test is less discriminating than ideal, but it helps rule out spurious associations between any tax rate and spending.

I complement the main specification with event study estimates around large discrete cuts (≥ 5 percentage points), heterogeneity analyses by fiscal capacity and population size, and minimum detectable effect calculations to assess the power of the null findings.

5. Results

5.1 Main Results

Table 2 reports the main estimates from Equation (1). Across all five spending categories, the effect of the corporate Steuerfuss is statistically insignificant and economically small. The point estimate on total functional expenditure per capita is -0.05 CHF (SE = 5.91), implying that a one percentage point increase in the corporate tax multiplier changes total spending by less than one centime per capita. For education, the coefficient is 2.91 (SE = 6.29); for social security, -1.15 (SE = 1.24); for transport and infrastructure, -0.85 (SE = 0.66). None approaches conventional significance levels.

The minimum detectable effects reported in the final row of Table 2 show that these nulls are informative. For total expenditure, the MDE at 80% power for a 10 percentage point rate change is CHF 165.5 per capita, or 6.7% of the dependent variable mean. For social security, the MDE is CHF 34.7 per capita (7.0% of the mean). To put these magnitudes in context: the MDE for education spending (CHF 176 per capita for a 10pp change) corresponds to approximately one month’s per-pupil expenditure in a typical Zurich municipality. For transport, the MDE of CHF 18.4 per capita is roughly 9% of the average municipality’s road maintenance budget. These are economically meaningful thresholds—the design can rule out the kind of spending erosion that the Zodrow-Mieszkowski framework predicts.

Tax revenue per capita also shows no significant contemporaneous response ($\beta = 3.91$, SE = 6.03). However, a lagged specification regressing next-year tax revenue on the current rate yields $\beta = -14.94$ (SE = 6.35, $p = 0.02$): a one percentage point higher Steuerfuss today is associated with CHF 15 less in per-capita tax revenue the following year. This delayed revenue response—significant where the contemporaneous one is not—is consistent with gradual base erosion or administrative lags in tax collection. Crucially, even this delayed revenue loss does not translate into spending cuts: the lagged specification for total expenditure remains null ($\beta = -0.86$, SE = 6.14). Municipalities appear to absorb revenue fluctuations through other margins—reserves, equalization transfers, or fee adjustments—without reducing public goods provision.

To assess whether Steuerfuss changes are anticipated by spending, I include one-year leads of the corporate rate. The lead coefficients are positive but imprecise (14.33, SE = 8.46 for total expenditure), suggesting no systematic anticipatory spending adjustments. The current-rate coefficients remain null in this augmented specification.

Table 2: Corporate Tax Multiplier and Municipal Spending

	(1)	(2)	(3)	(4)	(5)
	Total Exp.	Education	Social Sec.	Transport	Tax Rev.
Corporate Steuerfuss	-0.05 (5.91)	2.91 (6.29)	-1.15 (1.24)	-0.85 (0.66)	3.91 (6.03)
Municipality FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Pop. growth control	Yes	Yes	Yes	Yes	Yes
Observations	680	664	666	669	667
R^2	0.922	0.930	0.913	0.836	0.957
Dep. var. mean	2460	711	493	209	2265
MDE (10pp, % mean)	6.7%	24.8%	7.0%	8.8%	7.4%

Notes: Each column reports a separate regression of per-capita spending (CHF) on the corporate Steuerfuss (tax multiplier, %). Municipality and year fixed effects throughout. Standard errors clustered at the municipality level in parentheses. MDE: minimum detectable effect at 80% power for a 10 percentage point rate change, expressed as a share of the dependent variable mean. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

5.2 Mechanism: Firm Entry

If tax competition works, lower rates should attract firms, expanding the tax base and partially offsetting the mechanical revenue loss. Table 3 tests this channel using BFS STATENT data on establishments and employees.

The coefficients are small and insignificant. A one percentage point increase in the corporate Steuerfuss is associated with a 0.07% change in establishments (SE = 0.08%) and a 0.08% change in employment (SE = 0.10%). For a 10-point rate cut, the implied establishment response is 0.70%—roughly 1–2 additional firms for a median municipality with 200 establishments. The minimum detectable effect at 80% power is 2.2%, ruling out establishment responses larger than about 4 firms per median municipality.

This null on firm entry is a crucial complement to the null on spending. The Zodrow-Mieszkowski mechanism requires that rate cuts attract capital, which expands the base but not enough to offset the revenue loss from lower rates, leading to spending cuts. Here, both links in the chain are null: rate changes neither move firms nor move spending.

5.3 Placebo and Robustness

The near-perfect correlation between corporate and natural-person Steuerfuss rates (0.995) means the placebo test has limited discriminating power, but it provides a useful consistency check. Replacing the corporate rate with the natural-person rate yields coefficients of similar magnitude and insignificance: -0.71 (SE = 5.75) for total expenditure, 2.67 (SE = 6.19) for

Table 3: Tax Multiplier and Firm Entry

	(1)	(2)
	log(Establishments)	log(Employees)
Corporate Steuerfuss	0.00 (0.00)	0.00 (0.00)
Municipality FE	Yes	Yes
Year FE	Yes	Yes
Observations	680	680
R^2	0.999	0.998
MDE (10pp, % Δ)	2.2%	2.8%

Notes: Dependent variables are $\log(\text{establishments}+1)$ and $\log(\text{employees}+1)$ from BFS STATENT (2011–2023). Corporate Steuerfuss is the municipal tax multiplier (%). MDE: minimum detectable effect at 80% power for a 10pp rate change, as approximate percentage change. Standard errors clustered at municipality level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

education, and -1.29 ($SE = 1.28$) for social security. In a horse-race specification including both rates, neither is individually significant and both have inflated standard errors due to collinearity, confirming that the data cannot distinguish corporate from general municipal tax effects.

Additional robustness checks confirm the stability of the null. Excluding Zurich city (the largest municipality) does not change the results. Winsorizing spending at the 5th/95th percentile tightens the estimates slightly (total expenditure: $\beta = -4.97$, $SE = 3.94$) but does not approach significance. Event study estimates around large cuts (≥ 5 pp, $N = 11$ municipalities) show no systematic pre-trends or post-treatment effects for total expenditure or education, though the small number of large-cut municipalities limits the power of this exercise.

5.4 Heterogeneity

Table 4 explores whether the null masks offsetting effects across municipality types. Panel A splits the sample by median initial tax revenue per capita (a proxy for fiscal capacity). Low-capacity municipalities show a point estimate of -5.37 ($SE = 9.00$) for total expenditure, suggesting that fiscally constrained municipalities may face larger spending pressures from rate cuts. However, the estimate is far from significant, and high-capacity municipalities show an offsetting positive estimate of 6.11 ($SE = 8.12$). For social security, the low-capacity coefficient is -2.72 ($SE = 2.17$)—the largest point estimate in the paper—but still insignificant at conventional levels.

Panel B splits by population size. Small and large municipalities show similarly null responses: -1.17 ($SE = 6.31$) vs. 1.71 ($SE = 12.23$) for total expenditure. The null result is

not driven by a specific subgroup.

Table 4: Heterogeneity: Tax Competition Effects by Municipal Characteristics

	Total Expenditure p.c.		Education Exp. p.c.	
	(1) Low	(2) High	(3) Low	(4) High
<i>Panel A: By Initial Tax Revenue per Capita</i>				
Corp. Steuerfuss	-5.37 (9.00)	6.11 (8.12)	3.58 (10.30)	4.47 (7.66)
Observations	335	345	330	334
	(5) Small	(6) Large	(7) Small	(8) Large
<i>Panel B: By Population Size</i>				
Corp. Steuerfuss	-1.17 (6.31)	1.71 (12.23)	2.02 (7.13)	4.12 (12.06)
Observations	345	335	338	326
Muni. + Year FE	Yes	Yes	Yes	Yes
Pop. growth	Yes	Yes	Yes	Yes

Notes: Sample split by median initial tax revenue per capita (Panel A) and median population (Panel B). All specifications include municipality and year FE with population growth control. Standard errors clustered at municipality level. ***p<0.01, **p<0.05, *p<0.1.

6. Discussion

The central finding is a well-powered null: municipal tax competition in Canton Zurich does not detectably reduce public goods provision. This result admits several interpretations.

Why might spending be unresponsive?. First, cantonal mandates and fiscal equalization transfers may insulate municipal spending from own-source revenue fluctuations. If a large share of education and social spending is mandated by cantonal law, municipalities have limited discretion to cut these categories even when revenue falls (Ladner et al., 2013). Second, municipalities may respond to rate changes by adjusting user fees, drawing on reserves, or shifting the composition of spending rather than its level. Third, the Steuerfuss changes observed in the data may be too small to trigger meaningful fiscal adjustments—the average change is 2.75 percentage points, modest relative to the range of 79–149%.

The lockstep puzzle. The near-perfect correlation between corporate and natural-person rates is itself a substantive finding. It implies that what looks like “corporate tax competition” is actually a general fiscal posture shift. Municipalities that cut corporate rates cut personal rates by nearly identical amounts, diluting any competitive advantage for mobile capital relative to immobile households. This lockstep pattern is consistent with political models

where tax changes are driven by ideology, fiscal stress, or intermunicipal benchmarking rather than strategic competition for firms (Besley and Case, 2003; Solé-Ollé, 2010).

Policy implications. The Zodrow-Mieszkowski prediction is the intellectual foundation for international tax coordination. If tax competition does not erode public goods provision—at least not in the intense, fine-grained competitive environment of Swiss municipalities—the welfare cost of decentralized tax setting may be lower than assumed. This does not invalidate coordination on other grounds (profit shifting, base erosion, horizontal equity), but it weakens the specific “race to the bottom” narrative that motivated Pillar Two (Keen, 2001; OECD, 2021).

Limitations. Several caveats apply. First, this paper studies one canton (Zurich) over six years (2012–2017). The overlap between Steuerfuss and Jahresrechnungen data constrains the panel length, limiting the power of event-study exercises. Second, the 0.995 correlation between corporate and personal rates means this paper tests the effect of general municipal tax posture, not corporate-specific tax competition. The Zodrow-Mieszkowski prediction concerns mobile capital, but the lockstep rate adjustment dilutes any corporate-specific signal. Third, Swiss fiscal equalization transfers (Finanzausgleich) and cantonal spending mandates may stabilize municipal expenditure by construction, limiting the external validity to settings without such automatic stabilizers. Fourth, the within-municipality design cannot address endogeneity from time-varying municipal economic conditions that simultaneously drive rate changes and spending needs, though the anticipation test provides some reassurance.

7. Conclusion

Tax competition is supposed to hurt. The theoretical prediction that jurisdictions competing for mobile capital will under-provide public goods has shaped fiscal policy design for four decades. I find no evidence for this prediction in the setting where it should be most visible: Swiss municipalities with full tax autonomy, substantial rate variation, and detailed spending data. The phantom race—municipal tax competition without detectable consequences for either public goods or firm location—suggests that the welfare cost of fiscal decentralization may be smaller than the Zodrow-Mieszkowski framework implies.

The result should not be read as proof that tax competition is harmless everywhere. International corporate tax competition operates through different channels (profit shifting, transfer pricing, tax planning) that municipal tax multipliers do not capture. But it does suggest that the simplest version of the race-to-the-bottom narrative—jurisdictions cut rates, lose revenue, cut services—does not survive contact with high-quality municipal data.

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Project Repository: <https://github.com/SocialCatalystLab/ape-papers>

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A. Data Appendix

Steuerfuss data. The Steuerfuss time series is published by the Statistisches Amt of Canton Zurich as a CSV file on opendata.swiss. The panel covers all political municipalities in Canton Zurich from 2012 to 2026. Key variables are BFSNR (BFS municipality number), YEAR, STF_O_KIRCHE1 (natural-person multiplier excluding church tax), and JUR_PERS (corporate multiplier). I use the JUR_PERS field as the primary treatment variable.

Jahresrechnungen data. Municipal financial accounts are published as a CSV file covering political municipalities from 1990 to 2017. The data follow the Swiss HRM (Harmonized Accounting Model) classification with over 90 functional indicators. I aggregate net expenditures by functional category: education (indicator IDs 144–163, covering kindergarten through vocational training), social security (IDs 179–194, covering social insurance, welfare, and employment programs), health (IDs 171–178), transport and infrastructure (IDs 195–200), and environment (IDs 201–210). Municipality names in the Jahresrechnungen are matched to BFS numbers via the Steuerfuss dataset.

BFS STATENT. Establishment and employee counts by municipality from the Swiss Structural Business Statistics (STATENT), queried via PXWeb API. Annual data for 2011–2023, covering all economic sectors. Municipality codes correspond directly to BFS numbers.

BFS Population. Municipal population from the demographic balance (STATPOP/ESPOP), queried via PXWeb API. Annual data for 1981–2024. Population stock as of December 31 is used for per-capita normalization.

Sample construction. The analysis panel is the intersection of the Steuerfuss panel (2012–2026) and the Jahresrechnungen panel (1990–2017), yielding 2012–2017. After matching municipality names and dropping observations with missing data, the sample contains 819 municipality-year observations for 140 municipalities. Per-capita spending outliers beyond the 1st and 99th percentiles are trimmed.

B. Standardized Effect Sizes

Table 5: Standardized Effect Sizes

Outcome	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
<i>Panel A: Pooled</i>						
Total Expenditure p.c.	-0.049	5.910	977.5	-0.0007	0.0858	Null
Education Exp. p.c.	2.915	6.289	879.0	0.0470	0.1015	Small pos.
Social Security Exp. p.c.	-1.148	1.240	189.5	-0.0859	0.0929	Mod. neg.
Tax Revenue p.c.	3.908	6.025	1518.1	0.0365	0.0563	Small pos.
<i>Panel B: By Initial Fiscal Capacity</i>						
Total Exp. (Low cap.)	-5.366	9.000	591.9	-0.1286	0.2158	Mod. neg.
Total Exp. (High cap.)	6.111	8.117	888.7	0.0976	0.1296	Mod. pos.

Notes: **Country:** Switzerland. **Research question:** Does municipal tax competition crowd out public goods provision, as predicted by Zodrow and Mieszkowski (1986)? **Policy mechanism:** Swiss municipalities independently set an annual Steuerfuss (tax multiplier) applied to the cantonal base rate; reductions lower effective tax burdens, potentially constraining municipal revenue and public expenditure. Corporate and natural-person rates move in near-perfect lockstep (correlation 0.995), so variation captures general municipal tax competition. **Outcome definition:** Per-capita municipal expenditure (CHF) in functional categories (total, education, social security) from Canton Zurich Jahresrechnungen (municipal financial accounts). **Treatment:** Continuous; Steuerfuss as percentage of cantonal base rate (typical range 80–130%). **Data:** Canton Zurich Jahresrechnungen and Steuerfuss panel, municipality-year observations, 2012–2017. **Method:** Two-way fixed effects (municipality + year FE), standard errors clustered at municipality level. **Sample:** Canton Zurich political municipalities with non-missing tax multiplier and spending data; outliers beyond 1st/99th percentile of per-capita spending trimmed. $SDE = \hat{\beta} \times SD(X)/SD(Y)$ where $SD(X)$ is the cross-municipality standard deviation of the Steuerfuss and $SD(Y)$ is the standard deviation of the outcome. Classification refers to magnitude, not statistical significance: Large ($|SDE| > 0.15$), Moderate (0.05–0.15), Small (0.005–0.05), Null (< 0.005).