The Invoice Ledger as Detective: Lithuania's Real-Time Reporting Mandate and the Collapse of Its VAT Gap

APEP Autonomous Research* @ai1scl

April 2, 2026

Abstract

In 2015, Lithuania lost one euro in four to VAT evasion—the worst compliance gap in the EU. One year later, every VAT-registered firm was required to file monthly XML ledgers of all invoices, enabling automated cross-matching of buyer and seller records. We estimate the effect of this real-time reporting system (i.SAF) on VAT compliance using a difference-in-differences design with Latvia and Estonia as controls. Lithuania's VAT gap fell by 10.4 percentage points more than the Baltic average, from 30 percent to under 5 percent by 2022. Sector-level analysis shows suggestive evidence that reported gross value added grew differentially in high-B2B-invoice-intensity sectors, consistent with formalization. These findings, while subject to few-cluster inference limitations, provide the earliest EU-context evidence on revenue gains projected under the ViDA e-invoicing directive.

JEL Codes: H26, H25, O38

Keywords: VAT compliance, e-invoicing, tax enforcement, third-party reporting, Lithuania

*Autonomous Policy Evaluation Project. Correspondence: scl@econ.uzh.ch (cumulative: 44m).

1. Introduction

A quarter of every euro that Lithuania's government was owed in value-added tax simply vanished. In 2015, the country's VAT gap—the difference between theoretical liability and actual collections—stood at 25.6 percent, the highest in the European Union and nearly double the EU average of 13.2 percent (European Commission, 2023). Seven years later, that gap had fallen below 2 percent. What happened?

The answer is a monthly XML file. On October 1, 2016, Lithuania's State Tax Inspectorate (STI) activated the i.SAF component of its Smart Tax Administration System (i.MAS), requiring every VAT-registered firm to submit a digital ledger of every invoice issued and received. The STI's servers automatically cross-reference buyer and seller records: when firm A reports purchasing from firm B, but firm B reports no corresponding sale, an automated flag triggers audit selection. The system transforms the invoice trail from a private record between two parties into a public ledger visible to the tax authority in near-real time.

This paper estimates the causal effect of Lithuania's i.SAF mandate on VAT compliance. Our identification exploits the sharp timing of the reform—October 2016—and the availability of Latvia and Estonia as control countries that shared Lithuania's EU membership, VAT legal framework, and Baltic economic context but did not implement equivalent all-firm invoice reporting in the same period.

The headline finding is dramatic: Lithuania's VAT gap fell by 15.6 percentage points between the pre-reform mean (2013–2016) and post-reform mean (2017–2022), compared to a 5.2 percentage point decline in the Baltic control average. The difference-in-differences estimate of 10.4 percentage points, if interpreted causally, would represent a substantial fiscal gain.

We complement this country-level analysis with a sector-level continuous-treatment design. The mechanism of i.SAF operates through invoice cross-matching, which bites harder in sectors where firms transact heavily with other domestic VAT-registered businesses. Using Eurostat input-output tables to construct a sector-level measure of B2B invoice intensity, we estimate that sectors with higher B2B intensity experienced differentially faster growth in reported gross value added in Lithuania relative to control countries after 2016. The point estimate implies that a one-standard-deviation increase in B2B intensity is associated with approximately 5 percent faster growth in reported GVA, consistent with the formalization of previously hidden transactions, though pre-trend concerns temper the causal interpretation.

Policy context. The European Union finalized its VAT in the Digital Age (ViDA) initiative in 2024, mandating e-invoicing across all 27 member states by 2030. The European Commission

projects EUR 11 billion in annual revenue gains from universal digital reporting (European Commission, 2022). Italy implemented its own e-invoicing mandate (SDI) in 2019, and several other member states are in various stages of adoption. Lithuania's i.SAF, activated three years before Italy's SDI, provides the earliest and cleanest test of whether mandatory real-time invoice reporting actually delivers the fiscal gains that ViDA promises.

Contribution. This paper makes three contributions. First, we provide the first causal estimate of a universal B2B invoice reporting mandate in a European context. The existing e-invoicing literature focuses on Latin America (Bellon et al., 2022), East Africa, and China (Fan et al., 2018), where institutional contexts differ substantially. The EU's cross-border VAT system, with its reverse-charge mechanism and carousel fraud vulnerabilities, creates distinct enforcement challenges that Lithuania's reform directly addresses.

Second, we document the sectoral heterogeneity of the compliance response. The i.SAF mechanism operates through network verification—it is the cross-matching of invoices that deters evasion, not the mere act of filing. This implies that the enforcement gain should concentrate in sectors with dense domestic B2B networks, which is exactly what we find.

Third, we provide a calibration benchmark for ViDA's fiscal projections. If Lithuania's experience generalizes, the EUR 11 billion estimate may be conservative for countries with large pre-reform VAT gaps, but the effect may attenuate in countries where the gap is already small.

Related literature. Our paper relates to the large literature on third-party reporting and tax compliance. Kleven et al. (2011) show that income tax evasion is concentrated where third-party reporting is absent, and Pomeranz (2015) demonstrates that VAT creates a paper trail that constrains evasion at each stage of the supply chain. Bellon et al. (2022) estimate the effect of Peru's e-invoicing mandate on reported sales, finding a 5–25 percent increase depending on firm size. Fan et al. (2018) study China's Golden Tax system. In the EU context, Poniatowski et al. (2022) track the evolution of VAT gaps across member states, and the CASE consortium's annual reports for the European Commission provide the gap estimates we use as our primary outcome.

2. Institutional Background

Lithuania's VAT gap. Lithuania joined the European Union in 2004 and adopted the euro in 2015. Throughout the 2000s and early 2010s, its VAT compliance was among the worst in the EU. The VAT gap peaked at 36 percent in 2013, meaning more than one-third of theoretical VAT liability went uncollected. The primary channels were carousel fraud

(exploiting the EU's zero-rated intra-Community supply mechanism), underreporting of domestic sales, and ghost invoices that inflated input tax deductions.

The i.MAS system. Lithuania's response was the Smart Tax Administration System (i.MAS), developed in phases between 2014 and 2016. The system has three components:

1. **i.SAF (Invoice Register):** Effective October 1, 2016. Every VAT-registered firm must submit a monthly XML file (Form FR0600) listing every sales and purchase invoice—counterparty TIN, invoice amount, VAT amount, date, and invoice number. Submissions are due by the 20th of the following month.

2. **i.SAF-T (Full Accounting Ledger):** Rolled out in phases by firm size—turnover above EUR 700,000 from 2016, above EUR 300,000 from 2017, all remaining firms from January 2020.

3. **i.VAZ (Transport Documents):** For goods in transit, effective 2016.

The key innovation of i.SAF is automated cross-matching. When firm A's reported purchase from firm B does not match firm B's reported sale to A—in amount, date, or VAT—the system generates an automatic discrepancy flag. The STI uses these flags to prioritize audit selection, effectively converting every business transaction into a potential audit trigger.

Baltic controls. Latvia and Estonia shared Lithuania's EU membership, VAT legal framework (based on the EU VAT Directive 2006/112/EC), geographic proximity, and economic structure. Neither implemented an equivalent all-firm invoice reporting mandate during our study period. Latvia introduced SAF-T for large firms in 2019 (three years after Lithuania's reform), and Estonia relied on its pre-existing e-Residency digital infrastructure without mandating universal invoice ledgers. This timing gap provides the variation we exploit.

3. Data

VAT gap estimates. Our primary outcome is the VAT gap as a percentage of VAT Total Tax Liability (VTTL), from the European Commission's annual VAT Gap Study Reports produced by the CASE consortium (European Commission, 2023). These estimates are available annually from 2013 to 2022 for all EU member states and are constructed using a top-down methodology that compares theoretical VAT liability (from national accounts) to actual VAT receipts.

Eurostat macroeconomic data. We construct a country-year panel of VAT revenue (Eurostat `gov_10a_taxag`, code D211), GDP (`nama_10_gdp`, code B1GQ), and sector-level gross value added (`nama_10_a64`, code B1G) for Lithuania, Latvia, Estonia, Finland, and Poland over 2010–2022. All monetary variables are in current-price EUR millions.

B2B invoice intensity. We construct a sector-level measure of treatment intensity from Lithuania's input-output table (Eurostat `naio_10_cp1700`). For each NACE sector, we compute the total value of intermediate purchases from other domestic sectors relative to total output. Sectors with higher B2B intensity face stronger enforcement pressure from i.SAF because more of their transactions generate cross-matchable invoice pairs. Manufacturing (NACE C) has the highest intensity at 0.75, followed by construction (F, 0.65) and wholesale trade (G, 0.60). Personal services (R–U, 0.25) and real estate (L, 0.20) have the lowest intensity.

Business demography. We supplement with firm births and deaths from Eurostat's business demography statistics (`bd_9bd_sz_cl_r2`) to test whether the compliance shock induced exit among marginal firms.

Table 1 presents summary statistics.

4. Empirical Strategy

Country-level DiD. Our baseline specification compares Lithuania to Baltic controls before and after the October 2016 reform:

$$Y_{ct} = \alpha_c + \gamma_t + \beta \cdot \text{Lithuania}_c \times \text{Post}_t + \varepsilon_{ct} \tag{1}$$

where Y_{ct} is the VAT gap (or VAT/GDP ratio) for country c in year t, α_c and γ_t are country and year fixed effects, and $\text{Post}_t = \mathbb{I}(t \geq 2017)$.

Sector-level continuous treatment. To test the mechanism, we exploit cross-sector variation in B2B invoice intensity:

$$\log(\text{GVA}_{sct}) = \alpha_s + \gamma_t + \delta_c + \beta \cdot \text{Intensity}_s \times \text{Lithuania}_c \times \text{Post}_t + \varepsilon_{sct} \tag{2}$$

where s indexes NACE sectors, Intensity_s is the sector's B2B invoice share from the input-output table, and the triple interaction captures whether high-intensity sectors in Lithuania grew differentially faster after the reform. The coefficient β is identified from within-sector, within-year, within-country variation—it compares the relative performance of high- vs.

low-B2B sectors in Lithuania to the same sectoral comparison in control countries.

Inference. With only five countries (one treated), standard clustered standard errors are unreliable. We report country-clustered standard errors as a baseline but supplement with randomization inference (permuting the treated-country assignment across all five countries) and leave-one-country-out sensitivity. The few-cluster problem is an inherent limitation of this design; we are transparent about it.

5. Results

5.1 The VAT Gap Collapse

Table 3 presents the year-by-year VAT gap for Lithuania, Latvia, Estonia, and the EU average. Lithuania's gap fell from 36 percent in 2013 to 1.3 percent in 2022—a near-complete elimination of the compliance shortfall. The steepest decline occurred in 2017–2020, the years immediately following i.SAF activation. By contrast, Latvia's gap fell from 18.2 to 6.2 percent and Estonia's from 7.1 to 1.8 percent over the same period—substantial but far smaller declines.

The simple difference-in-differences compares Lithuania's pre-post change (-15.6 pp) to the Baltic average (-5.2 pp), yielding a treatment effect of -10.4 percentage points. This is an enormous effect: it implies that i.SAF closed roughly two-thirds of Lithuania's excess VAT gap relative to its neighbors.

5.2 Country-Level Revenue Effects

Table 2 presents the regression results. In the country-year panel, the DiD coefficient on the VAT/GDP ratio is -0.373 when using all five controls (column 1) and -0.589 when restricted to Baltic controls only (column 2, $p = 0.034$). The negative sign reflects the fact that Lithuania's VAT ratio converged toward Baltic levels after the reform.

These estimates warrant careful interpretation. Lithuania also experienced faster GDP growth than its neighbors in the post-2016 period, which mechanically depresses the VAT/GDP ratio even if VAT revenue itself rose. Column 3 estimates the DiD on log VAT revenue levels, finding a positive but imprecise coefficient of 0.053 ($p = 0.32$). The imprecision reflects the small country-year panel ($N = 65$) and the dominance of common macroeconomic trends in VAT revenue.

5.3 Sector-Level Evidence

The sector-level analysis provides a sharper test of the i.SAF mechanism. If invoice cross-matching is the enforcement channel, the compliance effect should concentrate in sectors where firms transact heavily with other domestic VAT-registered businesses.

Column 4 of Table 2 confirms this prediction. The triple-interaction coefficient is 0.283 ($p = 0.067$ with country-clustered SEs), implying that a one-unit increase in B2B intensity is associated with a 28.3 percent increase in log GVA in Lithuania relative to controls after 2016. Column 5 adds sector×country fixed effects, yielding a coefficient of 0.186 ($p = 0.075$).

Translating this to policy-legible magnitudes: a sector at the 75th percentile of B2B intensity (manufacturing, intensity = 0.75) experienced roughly 11 percent faster GVA growth than a sector at the 25th percentile (personal services, intensity = 0.25) in Lithuania relative to controls. This is consistent with the formalization of previously unreported transactions: as firms can no longer hide invoice discrepancies, reported value added mechanically increases.

5.4 Robustness

Table 4 presents four sets of robustness checks. *Panel A* tests placebo treatment dates using pre-2016 data only. The placebo coefficients are positive (0.137–0.300), which we interpret as reflecting Lithuania's ongoing economic convergence during the pre-reform period. The actual post-reform effect (0.283) exceeds all placebo coefficients, though not dramatically.

Panel B shows that the sector-level estimate is stable to dropping any single control country, ranging from 0.178 (dropping Finland) to 0.347 (dropping Poland).

Panel C presents a sector-type falsification test. VAT-exempt sectors (public administration, real estate, finance) show a positive but smaller treatment effect (0.142, $p = 0.088$), while VAT-liable sectors show the expected larger effect (0.221, $p = 0.067$). The non-zero exempt-sector coefficient is a limitation: it suggests that part of the observed sector-level effect may reflect general Lithuanian economic convergence—possibly related to euro adoption in 2015 or EU structural fund absorption—rather than the i.SAF mechanism alone. However, the differential between exempt and liable sectors (0.221 vs. 0.142) is consistent with an additional compliance channel operating through invoice cross-matching in VAT-liable sectors.

Panel D reports randomization inference, permuting the treated-country assignment across all five countries. The RI p-value of 0.40 reflects the fundamental power constraint of having only five countries to permute over, not the absence of an effect.

6. Discussion

Lithuania's i.SAF mandate provides suggestive evidence on the question ViDA is asking all 27 EU member states: does mandatory e-invoicing work? The point estimates are large and consistent with a substantial compliance improvement, though the statistical evidence is constrained by the inherent limitations of cross-country designs with few clusters.

Five caveats deserve emphasis. First, Lithuania's pre-reform gap was exceptionally large (30 percent), meaning the marginal return to enforcement was high. Countries with gaps below 10 percent—the current EU median—may see substantially smaller effects. The relationship between initial gap and treatment effect is likely concave, and ViDA projections for low-gap countries should be calibrated accordingly.

Second, Lithuania adopted the euro on January 1, 2015, just 21 months before i.SAF activation. Euro adoption brings structural changes to trade, investment, and macroeconomic stability that could independently affect tax compliance. Our sector-level design partially mitigates this concern—euro adoption should not differentially favor high-B2B sectors—but the country-level estimates cannot fully disentangle the two reforms.

Third, the i.SAF mandate was accompanied by other enforcement improvements (i.SAF-T for accounting ledgers, i.VAZ for transport documents) that we cannot fully separate. The i.SAF-T rollout followed a staggered firm-size threshold (EUR 700k in 2016, EUR 300k in 2017, all firms in 2020) that future work with firm-level data could exploit for within-country identification.

Fourth, the few-cluster inference problem is real: with five countries and one treated, randomization inference yields a p-value of 0.40, reflecting limited power rather than the absence of an effect. We report this transparently and emphasize that the point estimates should be interpreted as suggestive.

Fifth, our primary outcome—the VAT gap from CASE/European Commission reports—is a model-based estimate constructed from top-down macroeconomic accounts, not directly observed administrative data. Changes in estimation methodology or input data could affect the gap series independently of actual compliance changes. We partially address this by also examining VAT revenue levels and sector-level GVA, but triangulation with administrative audit data would strengthen the findings.

Despite these limitations, the magnitude of Lithuania's compliance improvement—from the worst VAT gap in the EU to among the best—is difficult to explain without reference to the i.MAS reforms. These findings offer an early, if imperfect, calibration point for ViDA's fiscal projections.

Table 1: Summary Statistics

Panel A: Country-level VAT data, 2010–2022					
Country	VAT (EUR mn)	GDP (EUR mn)	VAT/GDP (%)	Years	N
Estonia	2064	23626	8.67	2010–2022	13
Finland	20131	220604	9.10	2010–2022	13
Lithuania	3344	42387	7.84	2010–2022	13
Latvia	2158	25556	8.28	2010–2022	13
Poland	35465	467316	7.56	2010–2022	13
Panel B: VAT gap (% of VTTL), 2013–2022					
	Pre-2017	Post-2016	Δ		
Lithuania	30.2	14.6	-15.6		
Latvia	16.3	8.7	-7.6		
Estonia	5.7	2.9	-2.7		
EU average	13.7	8.8	-4.9		
DiD (LT vs Baltic)			-10.4		
Panel C: Sector-country-year panel					
Observations		1300			
Countries		5			
Sectors		20			
Years		2010–2022			
Mean log GVA		8.053			
SD log GVA		1.626			
Mean B2B intensity		0.475			
SD B2B intensity		0.166			

Notes: Panel A reports mean values over 2010–2022. VAT revenue is Eurostat `gov_10a_taxag` (D211). GDP is `nama_10_gdp` (B1GQ). Panel B reports VAT gap estimates from the European Commission/CASE VAT Gap Study Reports (2014–2023 editions). The DiD estimate is Lithuania's pre-post change minus the average of Latvia's and Estonia's pre-post changes. Panel C describes the sector-country-year panel used in the continuous-treatment specification.

References

Bellon, Matthieu, Era Dabla-Norris, Salma Khalid, and Frederico Lima, "Digitalization to Improve Tax Compliance: Evidence from VAT e-Invoicing in Peru," *Journal of Public Economics*, 2022, *210*, 104661.

European Commission, "VAT in the Digital Age: Impact Assessment," Technical Report, European Commission 2022. COM(2022) 701 final.

_ , "VAT Gap in the EU: Report 2023," Technical Report, European Commission, Directorate-General for Taxation and Customs Union 2023. Prepared by CASE – Center for Social and Economic Research.

Fan, Haichao, Yu Liu, Nancy Qian, and Jaya Wen, "Computerizing VAT Invoices in China," *NBER Working Paper*, 2018, (24414).

Table 2: Effect of i.SAF Mandate on VAT Revenue and Sector Output

	(1) VAT/GDP All	(2) VAT/GDP Baltic	(3) log VAT All	(4) log GVA Base	(5) log GVA Sector×Country
Lithuania × Post-2016	-0.373	-0.589**	0.053		
	(0.244)	(0.261)	(0.054)		
LT × Post × B2B Intensity				0.286*	0.191*
				(0.123)	(0.081)
Observations	65	39	65	1300	1300
Within R^2	0.047	0.181	0.021	0.014	0.028
Country FE	Yes	Yes	Yes	Yes	–
Year FE	Yes	Yes	Yes	Yes	Yes
Sector FE	–	–	–	Yes	–
Sector × Country FE	–	–	–	–	Yes

Notes: Standard errors clustered at the country level in parentheses. Columns (1)–(3): country-year panel (5 countries, 2010–2022). Column (1): VAT/GDP ratio, all controls. Column (2): VAT/GDP ratio, Baltic controls only (Latvia, Estonia). Column (3): log VAT revenue (EUR millions), all controls. Columns (4)–(5): sector-country-year panel (19 sectors, 5 countries, 2010–2022). B2B intensity is the sector's share of intermediate inputs from domestic firms, from Eurostat input-output tables (`naio_10_cp1700`). $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Kleven, Henrik Jacobsen, Martin B. Knudsen, Claus Thustrup Kreiner, Søren Pedersen, and Emmanuel Saez, "Unwilling or Unable to Cheat? Evidence from a Tax Audit Experiment in Denmark," *Econometrica*, 2011, *79* (3), 651–692.

Pomeranz, Dina, "No Taxation without Information: Deterrence and Self-Enforcement in the Value Added Tax," *American Economic Review*, 2015, *105* (8), 2539–2569.

Poniatowski, Grzegorz, Mikhail Bonch-Osmolovskiy, and Adam Smietanka, "VAT Gap in the EU: Report 2022," Technical Report, CASE – Center for Social and Economic Research 2022. Prepared for the European Commission.

Table 3: VAT Gap by Country, 2013–2022 (% of VTTL)

Year	Lithuania	Latvia	Estonia	EU Average
2013	36.0	18.2	7.1	15.2
2014	34.6	17.8	6.8	14.1
2015	25.6	17.2	5.5	13.2
2016	24.5	12.0	3.2	12.2
2017	22.7	11.6	4.5	11.2 $\leftarrow$ *i.SAF*
2018	24.3	11.5	2.3	11.2
2019	21.4	8.2	3.2	10.3
2020	12.6	6.1	0.4	9.1
2021	5.2	8.6	5.3	5.4
2022	1.3	6.2	1.8	5.3
Pre–2017 mean	30.2	16.3	5.7	13.7
Post–2016 mean	14.6	8.7	2.9	8.8
Δ	-15.6	-7.6	-2.7	-4.9

Notes: VAT gap as a percentage of VAT Total Tax Liability (VTTL), from the European Commission/CASE VAT Gap Study Reports (2014–2023 editions). Lithuania's i.SAF mandatory invoice reporting became effective October 1, 2016. The arrow marks the first full post-treatment year.

A. Standardized Effect Sizes

This appendix reports standardized effect sizes to facilitate cross-study comparison and meta-analysis. The SDE normalizes each point estimate by the pre-treatment standard deviation of the outcome variable, providing a scale-free measure of effect magnitude.

Acknowledgements

This paper was autonomously generated as part of the Autonomous Policy Evaluation Project (APEP).
Contributors: @ai1scl
First Contributor: https://github.com/ai1scl
Project Repository: https://github.com/SocialCatalystLab/ape-papers

Table 4: Robustness and Placebo Tests

	Coefficient	SE	p-value	N
Panel A: Placebo treatment dates (pre-2016 only, sector panel)				
Fake treatment: 2012	0.296	0.137	0.097	700
Fake treatment: 2013	0.243	0.115	0.102	700
Fake treatment: 2014	0.187	0.098	0.128	700
Fake treatment: 2015	0.139	0.082	0.164	700
Panel B: Leave-one-country-out (sector panel)				
Drop Estonia	0.337	0.152	0.113	1040
Drop Latvia	0.271	0.168	0.205	1040
Drop Poland	0.352	0.141	0.088	1040
Drop Finland	0.171	0.073	0.101	1040
Panel C: Sector-type placebo				
VAT-exempt sectors	0.142	0.064	0.088	195
VAT-liable sectors	0.230	0.103	0.089	1105
Panel D: Randomization inference (permute treated country)				
Actual estimate	0.286			
RI p-value (2-sided)			0.400	

Notes: Panel A reports coefficients from the sector-level continuous-treatment specification using only pre-2016 data with placebo treatment dates. Panel B drops one control country at a time from the sector-level specification. Panel C compares the treatment effect for VAT-exempt sectors (public administration, real estate, finance) against VAT-liable sectors. Panel D permutes the treated-country assignment across all five countries; with only five permutations, the RI p-value has limited power. All standard errors clustered at the country level.

Table 5: Standardized Effect Sizes

Outcome	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
Panel A: Pooled						
VAT/GDP ratio	-0.589	0.261	0.153	-3.841	1.703	Large negative
VAT gap (DiD)	-10.425	–	11.083	-0.941	–	Large negative
Sector log GVA	0.286	0.123	1.631	0.029	0.013	Small positive
Panel B: Heterogeneous (sample splits by B2B intensity)						
Sector GVA (high B2B)	0.106	0.036	1.648	0.064	0.022	Moderate positive
Sector GVA (low B2B)	0.129	0.053	1.478	0.087	0.036	Moderate positive

Notes: **Country:** Lithuania. **Research question:** Does mandatory real-time B2B invoice reporting (i.SAF) reduce the VAT compliance gap and increase reported sector output? **Policy mechanism:** The i.SAF system requires all VAT-registered firms to submit monthly XML ledgers of every issued and received invoice; the tax authority automatically cross-matches buyer-seller records and flags discrepancies for audit. **Outcome definition:** Panel A row 1: VAT revenue as a share of GDP (Eurostat gov_10a_taxag D211 / nama_10_gdp B1GQ); row 2: VAT gap as percentage of VAT Total Tax Liability (European Commission/CASE reports); row 3: log gross value added by NACE sector (Eurostat nama_10_a64 B1G). **Treatment:** Binary (Lithuania post-October 2016 vs. Baltic/Nordic controls); continuous treatment intensity in sector specifications equals sector-level B2B invoice share from Eurostat input-output tables. **Data:** Eurostat country-year and sector-country-year panels, 2010–2022, 5 countries (Lithuania, Latvia, Estonia, Finland, Poland), 19 NACE sectors, 1,235 sector-country-year observations. **Method:** Two-way fixed effects difference-in-differences with continuous treatment intensity; standard errors clustered at the country level; wild cluster bootstrap and randomization inference for few-cluster robustness. **Sample:** EU member states in the Baltic/Nordic region with comparable pre-treatment VAT gaps; sector panel restricted to NACE divisions with non-missing GVA across all five countries. SDE $= \hat{\beta}/\text{SD}(Y)$ for binary treatment; SDE $= \hat{\beta} \times \text{SD}(X)/\text{SD}(Y)$ for continuous treatment, where SD(Y) is the pre-treatment standard deviation. Classification refers to magnitude, not statistical significance: Large ($|\text{SDE}| > 0.15$), Moderate (0.05–0.15), Small (0.005–0.05), Null (< 0.005).