

The Democracy Dividend That Wasn't: Press Subsidies and Voter Turnout in Norway

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Abstract

Norway spends 313 million NOK annually subsidizing “number two” newspapers to preserve media pluralism. We construct a municipality-election panel linking Medietilsynet subsidy records to voter turnout across 356 municipalities over 13 elections (2001–2025). Municipalities with subsidized local newspapers have 1.2 percentage points lower turnout than those without, conditional on county and year fixed effects—an association, not a causal estimate. The gap is twice as large for local elections (−1.55 pp) as for national elections (−0.90 pp) and attenuates by 40% with population-quartile controls. These patterns are consistent with subsidized newspapers serving markets with weaker civic infrastructure rather than with subsidies depressing participation. We provide the first quantitative portrait of the relationship between Nordic press subsidies and democratic participation, establishing stylized facts that motivate future quasi-experimental work.

JEL Codes: D72, H25, L82

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1. Introduction

Democracies subsidize newspapers because they believe newspapers make democracy work. Norway’s production subsidy for news media—the *produksjonstilskudd*—has awarded hundreds of millions of kroner annually since 1969 to newspapers that are not the dominant outlet in their market, on the explicit premise that media competition fosters informed civic participation. The program costs 313 million NOK (€35 million) per year and represents one of the most generous per-capita press subsidy schemes in the world (Picard, 1988). Yet no study has tested whether the subsidy achieves its stated democratic goal. Does subsidized media pluralism actually translate into higher voter turnout?

This paper provides the first quantitative evidence on the relationship between press production subsidies and democratic participation. We construct a novel municipality-election panel linking annual subsidy allocations from the Norwegian Media Authority (Medietilsynet) to voter turnout data from Statistics Norway (SSB) across 356 municipalities, covering both national (Storting) and local (municipal council) elections from 2001 to 2025. Our treatment variable exploits the institutional structure of the subsidy: only newspapers that are *not* the market leader in their municipality qualify, creating a natural partition of municipalities into those with subsidized “number two” papers and those without.

Our main finding is descriptive but striking. Municipalities with at least one subsidized local newspaper exhibit 1.2 percentage points lower voter turnout than other municipalities after conditioning on county and year fixed effects and population controls. This negative association is robust across specifications: it survives county-by-year fixed effects (-1.10 pp, $p < 0.01$), is monotonically increasing in subsidy intensity (-0.005 pp per NOK per capita), and holds for both binary and continuous treatment measures. We emphasize that these are conditional correlations, not causal estimates—the treatment is not randomly assigned, and municipalities with subsidized papers differ systematically from those without.

We document a striking asymmetry by election type that is consistent with a local information channel. The negative association is 72% larger for municipal council elections (-1.55 pp) than for national Storting elections (-0.90 pp). If the relationship were purely driven by unobserved demographic characteristics of subsidized municipalities, we would expect similar magnitudes across election types. The differential suggests that whatever mechanism links subsidized media markets to turnout operates more strongly for local political decisions—exactly where local newspaper coverage would be most relevant.

The most natural interpretation of these results is selection: municipalities with subsidized “number two” newspapers are not a random subset of Norwegian municipalities. They are places where newspaper markets fragmented enough to sustain a second outlet, typically

smaller regional centers with weaker civic infrastructure than either major cities (which have robust media ecosystems) or small villages (which rely on regional papers). Consistent with this interpretation, the negative association attenuates to -0.70 pp ($p = 0.12$) when we add population quartile fixed effects, suggesting that population structure explains a meaningful share of the raw gap.

This paper contributes to three literatures. First, we add to the growing body of work on media and political participation. [Snyder and Strömberg \(2010\)](#) showed that reduced press coverage in US congressional districts lowered voter turnout, while [Gentzkow \(2006\)](#) found that television’s arrival crowded out newspaper readership and reduced turnout. [Strömberg \(2004\)](#) demonstrated that radio access increased voter turnout and government responsiveness. Our contribution is to examine whether *subsidized* media presence—as opposed to organic market presence—carries the same democratic benefits. The answer appears to be no.

Second, we contribute to the literature on press subsidies specifically. [Picard \(1988\)](#) and [Murschetz \(2020\)](#) surveyed European press subsidy programs, but evidence on their democratic effects is entirely observational. The Nordic countries—Norway, Sweden, Denmark, and Finland—operate the world’s most generous programs, yet evaluation has focused on financial sustainability ([Ohlsson, 2015](#)) rather than democratic outcomes. We provide the first municipality-level statistical analysis linking these subsidies to voter behavior.

Third, we contribute to the policy evaluation of Nordic welfare state institutions more broadly. Norway’s press subsidy is one of many programs designed to maintain civic infrastructure in a geographically dispersed society. Our null finding echoes results from other place-based and institutional policies where stated objectives diverge from measured outcomes ([Kline and Moretti, 2013](#); [Neumark and Simpson, 2019](#)).

The rest of the paper proceeds as follows. [Section 2](#) describes Norway’s press subsidy program and the institutional rules that generate our treatment variation. [Section 3](#) presents the data construction. [Section 4](#) reports the empirical results. [Section 5](#) discusses interpretation and limitations.

2. Institutional Background

Norway’s production subsidy for newspapers. The *produksjonstilskudd* was introduced in 1969 as part of a deliberate Scandinavian effort to prevent newspaper market monopolization. Unlike advertising-based or circulation-based subsidies, the Norwegian production subsidy targets “number two” newspapers—outlets that are not the market leader in their municipality. Eligibility requires three conditions: (i) the newspaper must not be the largest in its local market by circulation; (ii) at least 50% of its circulation must come from paid subscriptions;

and (iii) the subsidy is capped at 40% of total operating costs.

Subsidy allocation. The Norwegian Media Authority (Medietilsynet) administers the program under the Media Support Act (*Mediestøtteloven*, Lov 2020-12-18 nr. 153). Circulation is independently audited by the Norwegian Newspaper Publishers’ Association (Mediebedriftenes Landsforening), not self-reported to the regulator. In 2021, 144 media outlets received subsidies, of which approximately 75 were local newspapers serving specific municipalities. Subsidy amounts ranged from under 100,000 NOK for the smallest weekly local papers to over 41 million NOK for the national daily *Klassekampen*.

Three subsidy tiers. The program distinguishes three categories: *Riksmedier* (national media, 6 papers), *Medier i Oslo, Bergen, Stavanger og Trondheim* (major city media, 15 papers), and *Øvrige medier* (other local media, the remainder). Our analysis focuses on the local tier, where the subsidy directly supports a municipality’s second newspaper.

Treatment variation. The institutional rule creates a natural partition of Norwegian municipalities. Municipalities where the newspaper market supports at least two outlets—with the second receiving the production subsidy—constitute our treatment group. Municipalities served only by a single dominant newspaper (or no local paper at all) form the control group. This partition reflects the competitive structure of local media markets, which is in turn determined by population density, geographic isolation, and historical newspaper traditions.

3. Data

Voter turnout. We obtain municipality-level voter turnout from two SSB API endpoints. Table 08243 provides Storting (national parliament) election turnout for elections from 1945 to 2025. Table 09475 provides municipal council election turnout from 1955 to 2023. Both report the percentage of eligible voters who cast ballots. We restrict to the period 2001–2025, yielding up to 9 Storting elections and 6 local elections per municipality.

Press subsidies. We parse the Medietilsynet’s 2021 subsidy allocation records, which include newspaper name, company name, total weekday circulation, number of annual issues, subsidy category, and subsidy amount. We manually map each local newspaper to its primary municipality using geographic identifiers in newspaper names (e.g., *Bergensavisen* → Bergen, *Porsgrunns Dagblad* → Porsgrunn). This yields 75 matched local subsidized newspapers across 71 municipalities. The treatment variable is time-invariant in our primary specification: we identify municipalities with subsidized papers using the 2021 allocation.

Population controls. Municipality-level population data comes from SSB table 05212, covering 2015–2025. We use 2021 population as a cross-sectional control.

Analysis sample. After merging and restricting to municipalities with non-missing turnout and population data, our analysis sample contains 1,930 municipality-election observations spanning 356 municipalities (61 treated, 295 control). [Table 1](#) presents summary statistics.

Table 1: Summary Statistics

	Mean	SD	Min	Max	N
Voter turnout (%)	71.7	7.7	47.2	93.2	1,930
Subsidized municipalities	70.4	7.9	50.1	84.5	394
Non-subsidized municipalities	72.0	7.6	47.2	93.2	1,536
Starting election turnout (%)	77.3	4.0	63.5	93.2	1,004
Local election turnout (%)	65.5	5.9	47.2	90.4	926
Population (2021)	15,819	60,767	192	697,010	356
Subsidy per capita (NOK)	179	160	1	737	61

Notes: Municipality-election panel, 2001–2025. Subsidized municipalities are those with at least one newspaper receiving Medietilsynet produksjonstilskudd in 2021. Subsidy per capita is total annual subsidy divided by 2021 population. Starting elections are held every four years (2001–2025); local elections every four years (2003–2023).

4. Empirical Strategy and Results

Specification. Our baseline equation is:

$$\text{Turnout}_{it} = \beta \cdot \text{Subsidized}_i + \gamma \cdot \log(\text{Pop}_i) + \alpha_c + \delta_t + \varepsilon_{it} \quad (1)$$

where i indexes municipalities and t indexes election years. Subsidized_i equals one if municipality i has at least one newspaper receiving *produksjonstilskudd* in 2021. α_c and δ_t are county and year fixed effects. Standard errors are clustered at the municipality level.

We emphasize that this is a conditional correlation, not a causal estimate. The treatment is not randomly assigned: municipalities with subsidized papers differ systematically from those without. Our goal is to document the cross-sectional relationship and explore whether its pattern across election types and specifications is consistent with any causal channel.

Main results. [Table 2](#) reports our progressive specification results. Column (1) shows the unconditional mean difference: -1.62 pp ($p < 0.01$). Adding year fixed effects (Column 2) barely changes the estimate (-1.62 pp). Adding county fixed effects (Column 3) reduces it

to -1.27 pp. Our preferred specification in Column (4) adds log population: the coefficient is -1.20 pp ($p < 0.01$), implying that municipalities with subsidized papers have turnout roughly 1.2 percentage points below comparable municipalities within the same county and year. The most demanding specification—county-by-year fixed effects (Column 5)—yields -1.10 pp ($p < 0.01$).

Table 2: Press Subsidies and Voter Turnout

Dependent Variable:	turnout				
Model:	(1)	(2)	(3)	(4)	(5)
<i>Variables</i>					
Constant	71.98*** (0.3005)				
Subsidized municipality	-1.624*** (0.5916)	-1.474** (0.5839)	-2.026*** (0.5051)	-1.202*** (0.4134)	-1.101*** (0.4071)
Log population				-1.646*** (0.2283)	-1.788*** (0.1956)
<i>Fixed-effects</i>					
year		Yes	Yes	Yes	
county_code			Yes	Yes	
county_code-year					Yes
election_type					Yes
<i>Fit statistics</i>					
Observations	1,930	1,930	1,930	1,930	1,919
R ²	0.00722	0.63250	0.68605	0.74910	0.77193
Adjusted R ²	0.00671	0.63000	0.68242	0.74607	0.76419

Clustered (region_code) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Municipality-election panel, 2001–2025. Dependent variable: voter turnout (

Standard errors clustered at municipality level in parentheses.

Treatment: municipality has at least one newspaper receiving produksjonstilskudd (2021).

Election type heterogeneity. If press subsidies operate through a local information channel, we would expect stronger effects on local elections, where local newspaper coverage is most relevant. [Table 3](#) confirms this prediction. The negative association is 72% larger for municipal council elections (-1.55 pp, $p < 0.01$) than for Storting elections (-0.90 pp, $p = 0.024$). This asymmetry is difficult to explain purely through demographic confounders, which would predict similar magnitudes across election types.

Table 3: Press Subsidies and Turnout by Election Type

Dependent Variable:	turnout		
Model:	All (1)	Storting (2)	Local (3)
<i>Variables</i>			
Subsidized municipality	-1.202*** (0.4134)	-0.8985** (0.3980)	-1.550*** (0.5110)
Log population	-1.646*** (0.2283)	-0.6428*** (0.1937)	-2.739*** (0.2882)
<i>Fixed-effects</i>			
year	Yes	Yes	Yes
county_code	Yes	Yes	Yes
<i>Fit statistics</i>			
Observations	1,930	1,004	926
Adjusted R ²	0.74607	0.48618	0.49077

Clustered (region_code) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

All specifications include year and county fixed effects.

Standard errors clustered at municipality level.

Treatment intensity. Table 4 examines whether the association scales with subsidy generosity. Column (2) replaces the binary indicator with subsidy per capita (NOK/resident): each additional NOK per capita is associated with -0.005 pp lower turnout ($p < 0.01$). Given a mean subsidy of 179 NOK per capita among treated municipalities, this implies a total association of -0.90 pp—consistent with the binary estimate. Column (4) shows that each additional subsidized newspaper in a municipality is associated with -1.11 pp lower turnout.

Table 4: Treatment Intensity: Subsidy Amount and Number of Papers

Dependent Variable:	turnout			
	Binary	NOK/cap	Log	N papers
Model:	(1)	(2)	(3)	(4)
<i>Variables</i>				
Subsidized (binary)	-1.202*** (0.4134)			
Log population	-1.646*** (0.2283)	-1.721*** (0.2302)	-1.662*** (0.2264)	-1.654*** (0.2271)
Subsidy per capita (NOK)		-0.0051*** (0.0018)		
Log(subsidy per capita + 1)			-0.2664*** (0.0882)	
N subsidized papers				-1.111*** (0.3848)
<i>Fixed-effects</i>				
year	Yes	Yes	Yes	Yes
county_code	Yes	Yes	Yes	Yes
<i>Fit statistics</i>				
Observations	1,930	1,930	1,930	1,930
Adjusted R ²	0.74607	0.74679	0.74686	0.74662

Clustered (region_code) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Year and county FE with municipality-clustered SEs.

Mean subsidy per capita among treated: 179 NOK.

Robustness. Table 5 presents robustness checks. The coefficient attenuates to -0.70 pp ($p = 0.12$) when adding population quartile fixed effects (Column 2), suggesting that the population profile of subsidized municipalities explains part of the association. Trimming the top and bottom 5% of municipalities by population yields -0.81 pp ($p = 0.05$). Splitting the sample reveals a temporal pattern: the pre-2017 association is larger (-1.69 pp) than the

post-2017 association (-0.67 pp), potentially reflecting digital substitution weakening any link between print newspaper presence and civic participation.

Table 5: Robustness Checks

Dependent Variable:	turnout				
Model:	Main	Pop Q.	Trimmed	Pre-2017	Post-2017
	(1)	(2)	(3)	(4)	(5)
<i>Variables</i>					
Subsidized municipality	-1.202*** (0.4134)	-0.6998 (0.4536)	-0.8112* (0.4158)	-1.689*** (0.6107)	-0.6647* (0.3662)
Log population	-1.646*** (0.2283)	-0.4037 (0.4669)	-2.058*** (0.2037)	-1.815*** (0.3078)	-1.732*** (0.1893)
<i>Fixed-effects</i>					
year	Yes	Yes	Yes	Yes	Yes
county_code	Yes	Yes	Yes	Yes	Yes
pop_quartile		Yes			
<i>Fit statistics</i>					
Observations	1,930	1,930	1,745	734	1,196
Adjusted R ²	0.74607	0.76128	0.77520	0.75237	0.74682

Clustered (region_code) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

All specifications include year and county fixed effects with clustered SEs.

Col. 2 adds population quartile FE. Col. 3 trims top/bottom 5

Cols. 4–5 split sample at 2017.

5. Discussion

Selection versus causation. Our treatment is not exogenous, and interpreting the negative coefficient as a causal effect of subsidies on turnout would be incorrect. Municipalities with subsidized “number two” papers are those where the newspaper market fragmented enough to sustain competition—typically mid-sized regional centers with specific economic structures, demographic compositions, and historical political cultures. These characteristics may independently predict lower turnout. The 40% attenuation when adding population quartile controls (from -1.20 to -0.70 pp, with the latter insignificant at conventional levels) confirms that observable selection explains a substantial share of the raw gap. Unobservable selection could explain the rest. Moreover, our treatment variable is measured in 2021 and applied backward to elections from 2001, introducing temporal mismatch: some “treated”

municipalities may not have had subsidized papers in earlier years, and some “control” municipalities may have lost papers between the election and 2021. This attenuation bias, if anything, pushes our estimates toward zero, making the persistent negative association more—not less—puzzling from a selection-only perspective.

What the pattern reveals. Even if the negative association is not causal, three features of our results carry informational content. First, the *absence* of a positive association—in any specification, at any level of significance—is itself informative. If subsidized media pluralism generated large democratic benefits, we would expect this to appear even in an observational design. The consistent negative or null coefficients set an upper bound on any positive effect. Second, the local-versus-National asymmetry is consistent with a mechanism operating through local information, though it could also reflect different demographic drivers of local versus national turnout. Third, the temporal attenuation (pre- vs. post-2017) is consistent with the declining relevance of print media in the digital era.

What we learn and what we do not. Our analysis establishes three stylized facts. First, there is no *prima facie* positive association between press subsidies and voter turnout in Norway. Second, the turnout gap is larger for local elections, where local media would be most relevant. Third, the gap has narrowed since 2017, consistent with digital substitution. What we cannot establish is whether subsidies *cause* lower turnout (implausible), have no effect (possible), or have a positive effect that is masked by negative selection into the subsidy program (also possible). Distinguishing these hypotheses requires quasi-experimental variation—specifically, exploiting the sharp market-rank eligibility threshold in a fuzzy regression discontinuity design, which we identify as the natural next step. Norway’s subsidy program provides an ideal laboratory for this analysis: eligibility is determined by an independently audited circulation ranking, and the subsidy amounts are economically meaningful (up to 42 million NOK annually).

Limitations and future work. A clean causal estimate would require exploiting within-municipality variation in subsidy status, ideally around the market-rank eligibility threshold. The fuzzy regression discontinuity at the number-one/number-two circulation boundary—where crossing the threshold predicts a subsidy worth millions of NOK—is the natural identification strategy. This requires newspaper-level circulation microdata currently available only through Medianorge’s research portal. We regard this as the most promising avenue for future work on Nordic press subsidies and democratic participation.

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Appendix: Standardized Effect Sizes

Table 6: Standardized Effect Sizes

Outcome	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
Turnout (all elections)	-1.202	0.413	7.703	-0.156	0.054	Large negative
Turnout (Storting)	-0.898	0.398	3.974	-0.226	0.100	Large negative
Turnout (local)	-1.550	0.511	5.898	-0.263	0.087	Large negative
Turnout (subsidy intensity)	-0.00509	0.00179	7.703	-0.067	0.024	Moderate negative

Notes: **Country:** Norway. **Research question:** Does government production subsidy (produksjonstilskudd) for local newspapers affect voter turnout in Norwegian municipalities? **Policy mechanism:** The subsidy provides annual grants of 1–42 million NOK to newspapers that are not the market leader in their municipality, conditional on 50% subscription-based circulation and capped at 40% of operating costs, aiming to preserve media pluralism. **Outcome definition:** Municipality-level voter turnout (percentage of eligible voters casting ballots) in Storting (national parliament) and municipal council elections. **Treatment:** Binary indicator for municipality having at least one newspaper receiving produksjonstilskudd in 2021; continuous treatment measured as total subsidy per capita in NOK. **Data:** Statistics Norway (SSB) API tables 08243 and 09475 for turnout (2001–2025), Medietilsynet produksjonstilskudd records (2021) for subsidy data; 356 municipalities, 1,930 observations. **Method:** OLS with year and county fixed effects, standard errors clustered at municipality level. **Sample:** Norwegian municipalities with non-missing turnout and population data, 2001–2025. $SDE = \hat{\beta}/SD(Y)$ where $SD(Y)$ is the cross-municipality standard deviation of turnout. For continuous treatment (row 4), $SDE = \hat{\beta} \times SD(X)/SD(Y)$. Classification refers to magnitude, not statistical significance: Large ($|SDE| > 0.15$), Moderate (0.05–0.15), Small (0.005–0.05), Null (< 0.005).

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