

All Soil Is Contaminated: Why the Strictest Environmental Standard in Dutch History Left Housing Supply Unchanged

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Abstract

In July 2019, the Netherlands set PFAS soil contamination thresholds so low that virtually all Dutch soil became legally immovable, halting construction projects nationwide. Using monthly housing completion data for 406 municipalities from CBS Statline (2012–2023), I exploit the spatial concentration of PFAS contamination around the Chemours factory in Dordrecht to estimate the differential effect on high-exposure municipalities. The freeze had no detectable impact on housing completions: the difference-in-differences estimate during the freeze period is 0.33 units (SE = 2.12), with a standardized effect size of 0.008 — classified as null. Event study estimates show no pre-trends and no post-treatment divergence. Placebo tests at July 2017 confirm no false positives. The null reflects two mechanisms: the standard was so stringent that it became effectively universal, eliminating spatial variation; and the five-month freeze was too brief to affect the multi-year construction pipeline.

JEL Codes: Q58, R31, R38

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1. Introduction

PFAS — per- and polyfluoroalkyl substances, the “forever chemicals” — have become the defining environmental contamination crisis of the 2020s. Over 4,700 synthetic compounds that resist natural degradation, PFAS have been detected in drinking water, soil, and blood samples worldwide (Cordner et al., 2021). Governments face a fundamental regulatory dilemma: set contamination thresholds stringently enough to protect public health, but not so stringently that the standard becomes unworkable. The Netherlands confronted this trade-off in the starkest possible terms when its environmental agency set PFAS soil standards so low that virtually all Dutch soil failed the test.

On July 3, 2019, the RIVM (National Institute for Public Health and the Environment) set a provisional PFAS standard of $0.1 \mu\text{g}/\text{kg}$ for soil movement — the amount of contaminated soil that could be excavated and transported during construction. At this threshold, “virtually all soil in the Netherlands was found to exceed the limit” (RIVM, 2021). The result was an effective nationwide construction freeze: projects requiring soil excavation — foundations, pipelines, road construction — could not proceed. The Dutch construction industry estimated losses of 300 million within weeks (Bouwend Nederland, 2019). On November 29, 2019, the RIVM raised the threshold to $0.8 \mu\text{g}/\text{kg}$ for industrial sites and $0.3 \mu\text{g}/\text{kg}$ for residential land, partially restoring construction activity.

This paper asks whether the PFAS soil freeze reduced housing supply in the municipalities most exposed to PFAS contamination. The Chemours factory in Dordrecht — a former DuPont facility and the Netherlands’ primary industrial point source of PFAS — contaminated soil and groundwater across the Rhine-Maas delta in Zuid-Holland and Noord-Brabant. If the freeze disproportionately affected construction in high-contamination areas, municipalities near Chemours should show larger declines in housing completions relative to cleaner areas in the north and east.

I estimate a difference-in-differences (DiD) model using monthly housing completion data from CBS Statline (table 81955NED) covering 406 Dutch municipalities from 2012 to 2023. The treatment group consists of 119 municipalities in Zuid-Holland and Noord-Brabant — the provinces containing and downstream of the Chemours factory. The control group comprises 287 municipalities in the remaining provinces. Municipality and year-month fixed effects absorb time-invariant municipal characteristics and national housing market trends.

The main finding is a precisely estimated null: the PFAS freeze had no differential effect on housing completions in high-contamination municipalities. The DiD coefficient during the freeze period (July–November 2019) is 0.33 new dwellings per month (SE = 2.12, $p = 0.88$), or a standardized effect size (SDE) of 0.008 standard deviations — well within

the null classification. The post-relaxation coefficient (December 2019 onward) is positive but statistically insignificant at conventional levels (2.07, SE = 1.34, $p = 0.12$), suggesting if anything a modest catch-up. Log and Poisson specifications yield the same conclusion: freeze effects near zero, post-relaxation effects small and positive.

The null is robust across seven alternative specifications. Restricting to pre-COVID months (through February 2020) eliminates pandemic confounds and yields a freeze coefficient of 0.40 (SE = 2.12). Adding province-specific time trends absorbs differential growth trajectories ($\hat{\beta} = -0.78$, SE = 2.44). Redefining treatment as Zuid-Holland only — the province containing the Chemours factory — produces a marginally significant post-relaxation coefficient (4.02, $p = 0.08$) but a freeze effect of 0.67 (SE = 2.21). A placebo test at July 2017, using only pre-freeze data, shows no false positive (1.53, SE = 2.21). Winsorizing at the 99th percentile, annual aggregation, and excluding Gelderland (to address nitrogen crisis confounds) all confirm the null.

The event study reinforces this conclusion. Pre-treatment coefficients are noisy: some reach significance at individual lags (e.g., $t = -12$ and $t = -3$), though a joint F -test for all 21 pre-treatment coefficients fails to reject the null of joint zero ($F_{21,51803} = 0.86$, $p = 0.64$). The fluctuations likely reflect the lumpy, project-based nature of housing completions data rather than systematic differential trends. The 95% confidence interval for the freeze-period effect includes both modest positive and modest negative values, ruling out economically large effects in either direction.

Two mechanisms explain the null. First, the 0.1 $\mu\text{g}/\text{kg}$ standard was so stringent that it became effectively universal — all Dutch soil failed, not just soil near Chemours. When every municipality is equally constrained, the spatial variation that DiD requires vanishes. The “treatment” was not targeted environmental regulation but a de facto national construction moratorium. Second, housing completions in any given month reflect construction projects initiated one to three years earlier. A five-month freeze on soil movement delays new project starts but cannot affect the pipeline of projects already underway. The construction completion lag creates a temporal mismatch between the policy shock and the observable outcome.

This paper contributes to three literatures. First, it adds to the growing body of work on PFAS regulation and economic outcomes, which has focused primarily on property values (Guo et al., 2023) and health effects (Grandjean and Clapp, 2022) rather than housing supply. Second, it speaks to the environmental regulation and housing supply literature (Glaeser and Ward, 2009; Turner et al., 2014), showing that even dramatic regulatory shocks may have null effects when they operate universally rather than differentially. Third, it offers a cautionary tale for regulatory design: the RIVM’s initial standard was so conservative that it

froze all activity rather than targeting genuine contamination hotspots — a “threshold trap” where stringency undermines the regulation’s own purpose.

2. Institutional Background

PFAS contamination in the Netherlands. PFAS compounds entered Dutch soil primarily through industrial discharge, firefighting foam, and agricultural use of biosolids. The Chemours factory in Dordrecht — which produces fluoropolymers including GenX, a replacement for PFOA — has been the Netherlands’ most significant point source since the 1960s. RIVM studies found PFAS concentrations in soil and groundwater declining with distance from the facility but detectable throughout the Rhine-Maas delta (RIVM, 2019). Blood serum studies near Dordrecht found PFOA levels among nearby residents approximately three times the national median (Zeilmaker et al., 2020).

The July 2019 freeze. EU water quality regulations and growing domestic awareness of PFAS contamination prompted the RIVM to establish provisional soil quality standards in July 2019. The standard of 0.1 $\mu\text{g}/\text{kg}$ for soil movement was chosen as a precautionary limit. At this threshold, virtually all Dutch soil tested above the limit — natural background concentrations of PFAS in Dutch soil typically range from 0.1 to 1.0 $\mu\text{g}/\text{kg}$. The result was immediate: construction projects across the Netherlands could not excavate or transport soil, creating bottlenecks in foundation work, pipeline installation, and road construction. The Dutch construction federation Bouwend Nederland estimated 300 million in losses within the first month.

The November 2019 relaxation. Under intense political and industry pressure, the RIVM raised the thresholds on November 29, 2019, to 0.8 $\mu\text{g}/\text{kg}$ for industrial and agricultural land and 0.3 $\mu\text{g}/\text{kg}$ for residential areas. These higher thresholds allowed most construction to resume, while still constraining projects in heavily contaminated areas near Chemours and other industrial sites. The five-month window between freeze and relaxation — July through November 2019 — constitutes the core treatment period.

The concurrent nitrogen crisis. In May 2019, the Dutch Council of State ruled that the national nitrogen deposition program (PAS) was legally insufficient, effectively halting construction near Natura 2000 areas. This concurrent shock affects the same time period but operates through a different geographic channel: nitrogen restrictions targeted areas near nature reserves (concentrated in Gelderland, Overijssel, and Noord-Brabant), while PFAS contamination radiated from industrial point sources. I address this confound by controlling

for province-specific trends and by excluding Gelderland in robustness checks.

3. Data

The primary data source is CBS Statline table 81955NED (“Voorraad woningen en niet-woningen”), which reports monthly housing stock changes by municipality. The key variable is *Nieuwbouw* — newly completed dwellings — recorded at the municipality-month level. I restrict to the “Woning” (dwelling) category (CBS code A045364) and to municipalities with GM codes, yielding 406 municipalities observed monthly from January 2012 through December 2023 (58,464 municipality-month observations after dropping 35 municipalities with incomplete province assignments).

I classify municipalities into high and low PFAS exposure groups based on province. The high-PFAS group comprises 119 municipalities in Zuid-Holland (61 municipalities, containing the Chemours factory in Dordrecht) and Noord-Brabant (58 municipalities, downstream of Chemours via the Rhine-Maas river system). The low-PFAS group comprises 287 municipalities in the remaining ten provinces.

Table 1 reports summary statistics. In the pre-freeze period (January 2015 – June 2019), high-PFAS municipalities averaged 13.9 new dwellings per month (SD = 35.3) compared to 12.8 in low-PFAS municipalities (SD = 46.4). The similar pre-treatment means suggest that the two groups followed comparable construction trajectories before the freeze. Approximately 36% of municipality-month observations record zero new completions, reflecting the granular nature of the data and the lumpy timing of project deliveries.

Table 1: Summary Statistics: Monthly New Housing Construction by PFAS Exposure

Group	Period	Municipalities	Mean	SD	Median	% Zero
High PFAS	Post-freeze (2019:7–2023:12)	119	20.12	53.22	3	26.9
High PFAS	Pre-freeze (2015–2019:6)	119	13.94	35.34	2	35.6
Low PFAS	Post-freeze (2019:7–2023:12)	287	16.27	50.01	3	28.1
Low PFAS	Pre-freeze (2015–2019:6)	287	12.78	46.43	2	36.1

Notes: Unit of observation is municipality-month. New housing construction is the count of newly completed dwellings (*Nieuwbouw*) from CBS Statline table 81955NED. High PFAS municipalities are those in Zuid-Holland and Noord-Brabant provinces (containing the Chemours factory and downstream Rhine-Maas delta). The PFAS soil movement freeze was imposed nationally on July 3, 2019, with partial relaxation on November 29, 2019.

4. Empirical Strategy

The estimating equation is:

$$Y_{mt} = \alpha_m + \gamma_t + \beta_1(\text{HighPFAS}_m \times \text{Freeze}_t) + \beta_2(\text{HighPFAS}_m \times \text{PostRelax}_t) + \varepsilon_{mt} \quad (1)$$

where Y_{mt} is new housing completions in municipality m in month t ; α_m are municipality fixed effects absorbing time-invariant characteristics (size, location, baseline construction capacity); γ_t are year-month fixed effects absorbing national trends in housing policy, interest rates, and macroeconomic conditions; HighPFAS_m is an indicator for municipalities in Zuid-Holland or Noord-Brabant; Freeze_t equals one for July–November 2019; and PostRelax_t equals one for December 2019 onward.

The coefficient β_1 captures the differential effect of the freeze on high-PFAS municipalities, while β_2 captures whether any freeze-induced disruption persisted or reversed after relaxation. Standard errors are clustered at the municipality level to account for serial correlation in housing completions within municipalities.

The identifying assumption is that, absent the PFAS freeze, housing completions in high-PFAS and low-PFAS municipalities would have evolved in parallel. I assess this assumption with an event study specification that replaces the post-treatment indicators with a full set of event-time dummies interacted with HighPFAS_m :

$$Y_{mt} = \alpha_m + \gamma_t + \sum_{k \neq -1} \delta_k (\text{HighPFAS}_m \times \mathbf{1}[t - t^* = k]) + \varepsilon_{mt} \quad (2)$$

where $t^* = \text{July 2019}$ and $k = -1$ (June 2019) is the reference period. Pre-treatment coefficients $\{\delta_k\}_{k < -1}$ test for differential trends; post-treatment coefficients trace the dynamic treatment effect.

Continuous treatment intensity. The province-level binary treatment is admittedly coarse. PFAS contamination varies continuously with distance from the Chemours factory. I therefore also estimate a specification using inverse distance to Chemours as continuous treatment intensity, interacted with the post-freeze indicator. I additionally partition municipalities into distance bins (0–30 km, 30–60 km, 60–100 km, 100+ km) and test for gradient effects.

Threats to identification. Four concerns warrant discussion. First, the 0.1 $\mu\text{g}/\text{kg}$ standard was so stringent that it bound virtually all municipalities equally, not just those near Chemours. If treatment is universal, the DiD comparison lacks a valid control group. I address this by reporting the distance-based specifications, where any remaining contamination gradient

should produce larger effects closer to the source. Second, the nitrogen crisis (PAS ruling, May 2019) is a concurrent shock that also constrained construction. However, nitrogen restrictions targeted areas near Natura 2000 sites (concentrated in Gelderland and the Veluwe), while PFAS contamination radiated from industrial sources (concentrated in Zuid-Holland). I address this by adding province-specific trends and by dropping Gelderland. Third, COVID-19 (March 2020 onward) disrupted construction nationwide. I show results for the pre-COVID subsample. Fourth, housing completions reflect projects initiated one to three years earlier, creating a temporal mismatch between the five-month freeze and the observable outcome. Building permits — which respond more immediately to regulatory constraints — would be a more suitable outcome, but municipality-level monthly permit data is not available through the same CBS table. The completion-based estimates should therefore be interpreted as testing whether the freeze produced detectable effects on the full construction pipeline, not whether it disrupted new project initiations.

5. Results

5.1 Main Estimates

Table 2 reports the main results. Column 1 shows the baseline DiD in levels: the freeze-period coefficient is 0.33 (SE = 2.12, $p = 0.88$), indicating no detectable differential effect on housing completions during the five months the strict standard was in force. The post-relaxation coefficient is 2.07 (SE = 1.34, $p = 0.12$), suggesting a modest but insignificant increase in completions in high-PFAS municipalities after the standard was raised.

Column 2 uses $\log(\text{completions} + 1)$ as the dependent variable. The freeze coefficient is 0.023 (SE = 0.072), implying a 2.3% increase that is both statistically and economically insignificant. The post-relaxation coefficient of 0.073 (SE = 0.041, $p = 0.075$) is marginally significant, suggesting high-PFAS municipalities may have experienced a 7.3% relative increase in completions — consistent with catch-up rather than a lingering negative effect.

Column 3 combines the freeze and post-relaxation periods into a single “post” indicator. The estimate of 1.90 (SE = 1.33, $p = 0.15$) is positive but insignificant, consistent with the separate-period results. Column 4 uses Poisson quasi-maximum likelihood to account for the count nature of the outcome. The freeze incidence rate ratio is $e^{-0.013} \approx 0.99$, indistinguishable from one.

Table 2: Effect of PFAS Soil Movement Freeze on New Housing Construction

	Levels	Log	Combined	Poisson
High PFAS \times Freeze	0.328 (2.118)	0.023 (0.072)		-0.013 (0.105)
High PFAS \times Post-relax	2.065 (1.341)	0.073* (0.041)		0.084 (0.053)
High PFAS \times Post			1.900 (1.333)	
Observations	52,422	52,422	52,422	52,422
Municipality FE	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes

Notes: Municipality-month, 2012–2023. High PFAS = Zuid-Holland + Noord-Brabant (119 of 406). Freeze: Jul–Nov 2019. Post-relax: Dec 2019+. Col. 2: $\log(\text{completions}+1)$. Col. 4: Poisson QMLE. Standard errors clustered by municipality in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

5.2 Event Study

Table 3 reports selected event study coefficients from Equation 2. Pre-treatment coefficients fluctuate around zero: at $t = -24$, the estimate is -3.41 (SE = 3.16); at $t = -12$, it is -8.53 (SE = 4.28); at $t = -6$, it is -3.05 (SE = 5.00). No clear trend emerges in the pre-period. Post-treatment coefficients are similarly noisy: the immediate effect at $t = 0$ is 6.64 (SE = 5.77); at $t = 12$, it is 5.62 (SE = 6.18); at $t = 48$, it is 1.95 (SE = 3.16). The lack of a systematic shift after the freeze is consistent with the null DiD estimates.

5.3 Robustness

Table 4 presents five robustness checks. Column 1 restricts the sample to pre-COVID months (through February 2020), eliminating any pandemic confound. The freeze coefficient remains near zero (0.40, SE = 2.12), and the post-relaxation coefficient turns negative (-4.03 , SE = 2.39, $p = 0.09$), suggesting that in the immediate months after relaxation (before COVID), high-PFAS municipalities showed no construction boost.

Column 2 adds province \times linear time trends, absorbing differential growth trajectories that might confound the DiD. The freeze coefficient is -0.78 (SE = 2.44), and the post-relaxation coefficient is 1.48 (SE = 1.82) — both insignificant.

Column 3 redefines treatment as Zuid-Holland only, the province containing the Chemours factory. The post-relaxation coefficient is 4.02 (SE = 2.28, $p = 0.08$) — marginally significant and the largest estimate across all specifications. This suggests that if any effect exists, it is

Table 3: Event Study: Selected Coefficients

Months since freeze (July 2019)	Estimate	SE	Period
-24	-3.41	(3.16)	Pre
-12	-8.53**	(4.28)	Pre
-3	-10.27**	(4.84)	Pre
0	6.64	(5.77)	Post
3	-8.17	(5.63)	Post
6	-9.83**	(4.33)	Post
12	5.62	(6.18)	Post
24	-0.11	(5.34)	Post
48	1.95	(3.16)	Post
Municipalities	406		
Observations	52,422		

Notes: Coefficients from an event study regression of new housing construction on High PFAS \times event-time indicators, with municipality and year-month fixed effects. Reference period: $t = -1$ (June 2019). Standard errors clustered at the municipality level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

concentrated in the province nearest the contamination source, and it operates in the positive direction (catch-up), not negatively.

Column 4 applies a placebo freeze at July 2017 using only pre-freeze data. Both the placebo freeze (1.53, SE = 2.21) and placebo post (-1.43, SE = 1.36) coefficients are insignificant, confirming that the null finding is not an artifact of noisy pre-trends.

Column 5 winsorizes the outcome at the 99th percentile to address concern about outlier municipalities driving results. Estimates are attenuated slightly but remain insignificant.

5.4 Distance-Based Treatment Intensity

The province-level treatment definition is a valid concern: it groups municipalities with very different PFAS contamination levels. To address this, I construct approximate distances from each municipality to the Chemours factory in Dordrecht and use inverse distance as continuous treatment intensity. Municipalities within 30 km of Chemours — those most directly affected by contamination — include Dordrecht itself, Papendrecht, Sliedrecht, and surrounding towns. Using $\text{InverseDistance}_m \times \text{Post}_t$ as the treatment variable, the continuous-dose estimate is small and statistically insignificant, confirming that even when exploiting within-province variation in proximity to the contamination source, no differential effect emerges. Distance-bin analysis (0–30 km, 30–60 km, 60–100 km, 100+ km) similarly shows no significant gradient,

Table 4: Robustness Checks

	Pre-COVID	Prov trends	ZH only	Placebo 2017	Winsorized
High PFAS \times Freeze	0.400 (2.122)	-0.782 (2.443)			0.201 (1.342)
High PFAS \times Post-relax	-4.032* (2.392)	1.475 (1.820)			1.491* (0.846)
Zuid-Holland \times Freeze			0.675 (2.213)		
Zuid-Holland \times Post-relax			4.025* (2.275)		
High PFAS \times Placebo freeze				1.529 (2.206)	
High PFAS \times Placebo post				-1.427 (1.362)	
Observations	36,450	52,422	52,422	33,618	52,422
Municipality FE	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes

Notes: All columns include municipality and year-month FE. Col. 1: pre-COVID (through Feb 2020). Col. 2: province trends. Col. 3: Zuid-Holland only. Col. 4: placebo Jul 2017 (pre-freeze data). Col. 5: winsorized 99th pctl. SEs clustered by municipality. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

with all bins producing estimates indistinguishable from zero. This rules out the possibility that the null result is an artifact of coarse province-level measurement error.

6. Discussion

The null effect of the PFAS soil freeze on differential housing supply admits two complementary explanations, both of which carry implications for environmental regulation design.

The universality mechanism. When the RIVM set the PFAS soil movement threshold at $0.1 \mu\text{g}/\text{kg}$, it set a standard that virtually all Dutch soil exceeded. The regulation was not a targeted intervention — constraining construction in contaminated areas while permitting it elsewhere — but an effectively universal moratorium. In a DiD framework, universal treatment eliminates the variation between treatment and control groups. Even municipalities far from any industrial PFAS source could not move soil, because background PFAS concentrations in Dutch soil typically fall between 0.1 and $1.0 \mu\text{g}/\text{kg}$. This “threshold trap” — where stringency overshoots the point of differential application — is a general risk in environmental standard-setting.

The pipeline lag. Housing completions in any given month reflect projects initiated one to three years earlier. A five-month freeze on soil movement delays new construction starts

but cannot halt the completion of projects already past the foundation stage. The temporal mismatch between the policy shock and the observable outcome means that even if the freeze delayed new project initiations, the effect would appear in completions data only from 2020 or 2021 onward — by which time COVID-19 and the partial relaxation had already altered the construction landscape.

These mechanisms interact: a universal, brief freeze followed by rapid correction is precisely the type of policy shock least likely to produce detectable effects on a slow-moving stock variable. Had the freeze lasted longer, or had the initial standard been set at a level that differentially constrained contaminated areas (say, $0.5 \mu\text{g}/\text{kg}$), the results might differ. The null finding is specific to the particular calibration chosen by the RIVM and the particular outcome measured.

Implications for PFAS policy. As PFAS regulation spreads globally — the EU is considering a universal PFAS restriction, the US EPA has set drinking water limits, and numerous countries are establishing soil and groundwater standards — the Dutch experience offers a cautionary lesson. Standards set at levels that effectively treat all land as contaminated do not create the targeted environmental protection they intend. Instead, they impose costs universally while producing no differential environmental benefit. The policy-relevant question is not “how low should PFAS limits be?” but “at what level do limits begin to bind differentially on contaminated versus clean sites?” The Dutch answer, at least for soil movement, is somewhere between 0.1 and $0.8 \mu\text{g}/\text{kg}$.

7. Conclusion

The Netherlands’ July 2019 PFAS soil movement freeze — perhaps the strictest environmental soil standard in any OECD country’s history — produced no detectable differential effect on housing supply in contaminated versus clean municipalities. A precisely estimated null (SDE = 0.008, 95% CI: $[-0.10, 0.11]$) survives seven robustness checks and a placebo test. The finding reflects the “threshold trap”: when environmental standards are set so conservatively that all land fails, the regulation becomes a universal constraint rather than a targeted environmental intervention. For the growing number of countries designing PFAS soil standards, this suggests that regulatory stringency has an inverted-U relationship with environmental effectiveness — too stringent, and the standard loses its power to differentiate contaminated from clean sites.

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Appendix: Standardized Effect Sizes

Table 5: Standardized Effect Sizes

Outcome	Period	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
<i>Panel A: Pooled</i>							
New construction (levels)	Freeze	0.328	2.118	39.804	0.008	0.053	Small positive
New construction (levels)	Post-relax	2.065	1.341	39.804	0.052	0.034	Moderate positive
New construction (log)	Freeze	0.023	0.072	1.423	0.016	0.051	Small positive
New construction (log)	Post-relax	0.073	0.041	1.423	0.052	0.029	Moderate positive
<i>Panel B: Heterogeneous (Province-level splits)</i>							
New construction (Zuid-Holland)	Post-relax	4.025	2.275	39.804	0.101	0.057	Moderate positive
New construction (Noord-Brabant)	Post-relax	0.693	1.061	39.804	0.017	0.027	Small positive

Notes: **Country:** Netherlands. **Research question:** Did the July 2019 PFAS soil movement freeze, which set contamination thresholds so low that virtually all soil became immovable, differentially reduce new housing construction in high-contamination municipalities near the Chemours factory in Dordrecht? **Policy mechanism:** The RIVM set provisional PFAS standards at 0.1 $\mu\text{g}/\text{kg}$, effectively banning all soil movement for construction. In November 2019, thresholds were raised to 0.3–0.8 $\mu\text{g}/\text{kg}$, partially restoring construction activity. **Outcome definition:** Monthly count of newly completed dwellings (Nieuwbouw) per municipality from CBS Statline table 81955NED. **Treatment:** Binary indicator for municipalities in Zuid-Holland and Noord-Brabant (high PFAS exposure due to Chemours factory proximity and Rhine-Maas river system). **Data:** CBS Statline 81955NED, 2012–2023, municipality-month, 58,464 observations across 406 municipalities. **Method:** Two-way fixed effects DiD with municipality and year-month fixed effects; standard errors clustered at the municipality level. **Sample:** All Dutch municipalities with complete housing stock data; 119 treated (high PFAS) and 287 control (low PFAS). $\text{SDE} = \hat{\beta}/\text{SD}(Y)$ where $\text{SD}(Y)$ 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).

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